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PERSONAL.

Mr. Abram Wing, Superintendent of the Iowa Water Co., Ottumwa, Ia., has resigned.

Mr. H. Nelson Hyde, for 20 years Superintendent of the water-works at Newton, Mass., has resigned.

Mr. Samuel Sloan, President of the Delaware, Lackawanna & Western R. R., will, it is reported, resign that office in February at the annual meeting of the company. He has held the office for 32 consecutive years.

Mr. Henry B. Seaman, M. Am. Soc. C. E., and M. Am. Soc. M. E., with offices at 40 Wall St., New York city, has resigned as Chief Engineer of the Audit Co., of New York, and will devote his entire time to private practice.

Prof. W. H. Dean, for several years past Water Inspector under the direction of the city council of Wilkes-Barre, Pa., has resigned to accept the position of Expert on Chemical Analysis for the Spring Brook Water Supply Co., of that city.

Mr. Rudolph Hering, M. Am. Soc. C. E., hydraulic and sanitary engineer, of New York city, has been appointed Expert Mechanical and Sanitary Engineer to review the plans of the City Engineer of Buffalo, N. Y., to abate the Hamburg Canal nuisance.

Mr. George W. Jones, who has just completed a large bridge over the Magdalena River in the United States of Colombia, arrived in New York, Dec. 19, on the steamer "Altai." The bridge has taken seven years to build on account of the swiftness of the river.

Mr. Clemens Herschel, M. Am. Soc. C. E. and M. Inst. C. E., has been awarded the Elliott Cresson gold medal by the Franklin Institute, of Philadelphia, for his invention of the Venturi water-meter. This is a well-deserved recognition of the value of a most useful discovery in hydraulic engineering.

Mr. Frederick H. Mason has opened an office as a consulting mechanical engineer, at 1020 Monadnock Block, Chicago, and will also act as the Western representative of the Frankford Steel & Forging Co., Philadelphia, Pa. He has been associated with a number of engineering firms in the West, until recently having been with the Railroad Supply Co., Chicago.

Mr. George Lewis Bradbury, Vice-President and General Manager of the Lake Erie & Western R. R., with headquarters in Chicago, has been elected President of that railway, to succeed the late Senator Calvin S. Brice, whose death was noted in our last issue. Mr. Bradbury is also Vice-President of the Cleveland, Akron & Columbus Ry., General Manager of the Northern Ohio Ry., and President of the Peoria & Pekin Union Ry.

OBITUARY.

Mr. Charles Hessean, architect, of Danville, Ill., died Dec. 16.

Capt. John Adams, of the Adams Bros. Co., bridge contractors, of Findlay, O., died Dec. 18, aged 58.

Mr. Charles Hillman, President of the Chas. Hillman Ship & Engine Building Co., Philadelphia, Pa., died Dec. 22, aged 75.

Mr. Walter Rosser, Sr., Division Superintendent of the Nashville, Chattanooga & St. Louis Ry., died at his home in Stevenson, Ala., Dec. 26.

Mr. Charles Hughes, senior partner of the firm of Hughes Bros. & Bangs, government contractors, of Syracuse, N. Y., died Dec. 18.

Mr. Charles G. Martin, brass manufacturer, of Mount Vernon, N. Y., died Dec. 21, aged 84. He was a brother of the late Daniel B. Martin, who was an engineer in the U. S. navy.

Col. Daniel Morris, civil engineer, of Atlantic City, N. J., died Dec. 21, aged 79. He laid out the city, and was the constructing engineer of the first railway from Camden to Atlantic City.

Mr. Albert C. Robinson, architect, of East Kingston, N. H., died Dec. 18, aged 52. He was for several years Superintendent of water-works at Knoxville, Tenn.; Fort Paine, Ala., and other places in the South.

Mr. Edward F. Randolph, of the firm of Randolph & Clowes, manufacturers of brass and copper tubing, etc., of Waterbury, Conn., died Dec. 18, of pneumonia, at his residence in New York city, aged 68. The business, we are informed, will continue under the same management as heretofore.

Dr. Wellington Adams, an electrical engineer and inventor, of St. Louis, Mo., died Dec. 20, aged 42. He came into prominence some years ago as the promoter of an electric railway from St. Louis to Chicago.

Major Frederick Henry Smith, M. Am. Soc. C. E., civil engineer and bridge builder, died at Baltimore, Md., on Dec. 24, aged 59 years. He was a brother of the late C. Shaler Smith, M. Am. Soc. C. E., and was associated with the latter in many of his bridge enterprises.

Col. Philip Henry Moore, Editor and owner of "The Ohio Valley Manufacturer," died at Wheeling, W. Va., Dec. 26, of paralysis. He served in the Engineer Corps of the Confederate Army during the Civil War. In 1859 he established the "Daily Union" of Wheeling, W. Va.

Mr. Stephen A. Morse, inventor and founder of the firm of Morse, Williams & Co., Philadelphia, Pa., elevator manufacturers, died in that city Dec. 22. He was born in Holderness, N. H., May 28, 1828, and learned the trade of a machinist. He went to Philadelphia about 25 years ago and soon after began the manufacture of elevators. He was the inventor of the well-known Morse twist drill.

Mr. R. T. McDonald, President of the Fort Wayne Electric Corporation, Fort Wayne, Ind., died in Dallas, Tex., Dec. 24, of pneumonia, aged 49. He was born in Pennsylvania, and removed to Fort Wayne in 1859, where he identified himself with various business enterprises and was instrumental in introducing electric lighting into that city. Later he gave his attention to electric railways and assisted in the formation of the company of which he was the head at the time of his death. He was also interested in a large ice-making plant in New Orleans, La., and had lately obtained the contract to build sewers in that city.

ENGINEERING SOCIETIES.

COMING TECHNICAL MEETINGS.

ENGINEERING SOCIETY OF WESTERN NEW YORK.
Jan. 2. Secy., H. J. March, Library Bldg., Buffalo, N. Y.

CIVIL ENGINEERS' SOCIETY OF ST. PAUL.
Jan. 2. Secy., C. L. Annan, City Engineer's Office, St. Paul, Minn.

FRANKLIN INSTITUTE.
Jan. 3. "Methods for the Examination of Explosives," Dr. W. J. Williams. Jan. 11. "Segregation Tests on Steel Ingots," A. W. Allen. Jan. 17. "The Clarification and Purification of Municipal Water Supplies," Mr. Allen Hazen. Jan. 20. "This Country of Ours," John Birkinbine. Secy., Wm. H. Wahl, 15 South 7th St., Philadelphia, Pa.

WESTERN SOCIETY OF ENGINEERS.
Jan. 3. Annual meeting. Secy., N. L. Litten, Monadnock Block, Chicago, Ill.

FOUNDRYMEN'S ASSOCIATION, PHILADELPHIA.
Jan. 4. Secy., Howard Evans, Pier 45, Delaware Ave., Philadelphia, Pa.

ENGINEERS' CLUB OF ST. LOUIS.
Jan. 4. Secy., Richard McCulloch, 2401 N. Spring Ave., St. Louis, Mo.

AMERICAN SOCIETY OF CIVIL ENGINEERS.
Jan. 4. Secy., C. W. Hunt, 220 West 57th St., New York city.

AMERICAN INSTITUTE, AND THE HENRY ELECTRICAL SOCIETY.
Jan. 6. "Polarized Light," Louis H. Laudy. Jan. 20. "Alternating Currents," Wm. H. Freedman. Secy., D. R. Lovejoy, 111 W. 38th St., New York city.

TECHNICAL SOCIETY OF THE PACIFIC COAST.
Jan. 6. Secy., O. Von Geldern, 19 Market St., San Francisco, Cal.

BROOKLYN INSTITUTE OF ARTS AND SCIENCES.
Jan. 6. "The Electro-Metallurgy of Copper," John B. F. Hereschoff. Secy., Henry I. Weed, Brooklyn Institute of Arts and Sciences, Brooklyn, N. Y.

CHICAGO ELECTRICAL ASSOCIATION.
Jan. 6. "Telephone Engineering: Some Problems, Solved and Unsolved," S. G. McMeen. Secy., J. R. Cravath, 825 Monadnock Block, Chicago, Ill.

THE ENGINEERS' CLUB OF PHILADELPHIA.
Jan. 7. Secy., L. F. Rondinella, 1122 Girard St., Philadelphia, Pa.

ENGINEERS' CLUB OF COLUMBUS.
Jan. 7. Secy., H. M. Gates, 12½ North High St., Columbus, O.

THE LOUISIANA ENGINEERING SOCIETY.
Jan. 9. Secy., J. F. Coleman, 712 Union St., New Orleans, La.

ENGINEERS' CLUB OF KANSAS CITY.
Jan. 9. Secy., F. W. Tuttle, Baird Bldg., Kansas City, Mo.

DENVER SOCIETY OF CIVIL ENGINEERS.
Jan. 10. Secy., W. B. Lawson, 36 Jacobson Bldg., Denver, Col.

NORTHWEST RAILWAY CLUB.
Jan. 10. Secy., T. A. Foque, Soo Line, Minneapolis, Minn.

NEW ENGLAND RAILWAY CLUB.
Jan. 10. Secy., Edw. L. Janes, P. O. Box 1158, Boston, Mass.

CIVIL ENGINEERS' CLUB OF CLEVELAND.
Jan. 10. Secy., Wm. H. Searles, Case Library Bldg., Cleveland.

CANADIAN SOCIETY OF CIVIL ENGINEERS.
Jan. 12. Annual meeting. Secy., C. A. McNab, 112 Mansfield St., Montreal, Can.

ENGINEERING ASSOCIATION OF THE SOUTH.
Jan. 12. Secy., C. B. Wilson, 1000 Broad St., Nashville, Tenn.

CENTRAL RAILWAY CLUB.
Jan. 13. Secy., H. D. Vought, 114 Fifth Ave., New York city.

ST. LOUIS RAILWAY CLUB.
Jan. 13. Secy., H. H. Roberts, 511 Commercial Bldg., St. Louis, Mo.

SCRANTON ENGINEERS' CLUB.
Jan. 14. Annual meeting. Secy., F. E. Pratt, 730 Madison Ave., Scranton, Pa.

MONTANA SOCIETY OF ENGINEERS.
Jan. 14. Annual meeting, Helena, Mont. Secy., A. S. Hovey, National Bank Bldg., Helena, Mont.

AMERICAN INVENTORS' AND MANUFACTURERS' ASSOCIATION.
Jan. 15. Annual meeting, Washington, D. C. Secy., Arthur Steuart, Washington Loan and Trust Bldg., Washington, D. C.

ENGINEERS' AND ARCHITECTS' CLUB OF LOUISVILLE.
Jan. 16. Secy., Marshall Morris, 16 Norton Bldg., Louisville, Ky.

TECHNICAL CLUB OF OMAHA.
Jan. 16. Secy., J. Harry Lawrie, Omaha, Neb.

ENGINEERS' CLUB OF MINNEAPOLIS.
Jan. 16. Secy., H. E. Smith, 1620 S. E. 14th St., Minneapolis, Minn.

ENGINEERS' SOCIETY OF WESTERN PENNSYLVANIA
Jan. 17. Secy., R. A. Fessenden, 410 Penn Ave., Pittsburg, Pa.

WESTERN RAILWAY CLUB.
Jan. 17. Secy., F. M. Whyte, 225 Dearborn St., Chicago, Ill.

BOSTON SOCIETY OF CIVIL ENGINEERS.
Jan. 18. Annual meeting. Secy., S. E. Tinkham, City Hall, Boston, Mass.

WESTERN FOUNDRYMEN'S ASSOCIATION.
Jan. 18. Secy., B. M. Gardner, 1522 Monadnock Block, Chicago, Ill.

THE IOWA ENGINEERING SOCIETY.
Jan. 18-19. Annual meeting, Iowa City, Iowa. Secy., E. P. Boynton, Cedar Rapids, Ia.

NEW YORK RAILROAD CLUB.
Jan. 19. Secy., W. W. Wheatley, 168 Montague St., Brooklyn, N. Y.

ENGINEERS' CLUB OF CINCINNATI.
Jan. 19. Secy., J. F. Wilson, P. O. Box 333, Cincinnati, O.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.
Jan. 19. Secy., F. A. Charpiot, P. O. Box 13, Savannah, Ga.

THE WEST VIRGINIA SOCIETY OF CIVIL ENGINEERS AND ARCHITECTS.
Jan. 19-20. Annual meeting, Charleston, W. Va. Secy., W. Steenbergen, Point Pleasant, W. Va.

NORTHWESTERN ELECTRICAL ASSOCIATION.
Jan. 19-21. Semi-annual meeting, Milwaukee, Wis. Secy., Thos. R. Merceln, 511 Montgomery Bldg., Milwaukee, Wis.

TECHNICAL SOCIETY OF THE PACIFIC COAST.
Jan. 20. Annual meeting. Secy., O. Von Geldern, 819 Market St., San Francisco, Cal.

ROCHESTER ENGINEERING SOCIETY.
Jan. 20. Secy., John F. Skinner, Reynolds Library Bldg., Rochester, N. Y.

THE DETROIT ENGINEERING SOCIETY.
Jan. 20. Secy, Henry Goldmark, Wayne Co., Sav. Bank Building, Detroit, Mich.

NATIONAL ASSOCIATION OF MANUFACTURERS.
Jan. 24-26. Annual convention, Cincinnati, O. Secy., E. P. Wilson, Room A, Chamber of Commerce, Cincinnati, O.

INDIANA ENGINEERING SOCIETY.
Jan. 24-26. Annual meeting, Indianapolis, Ind. Secy., J. B. Nelson, 61 Baldwin Block, Indianapolis, Ind.

MICHIGAN ENGINEERING SOCIETY.
Jan. 24-26. Annual meeting, Lansing, Mich. Secy., F. Hodgman, Climax, Mich.

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS
Jan. 25. Secy., Ralph W. Pope, 26 Cortlandt St., New York city.

ILLINOIS SOCIETY OF ENGINEERS AND SURVEYORS.
Jan. 25-27. Annual meeting, Champaign, Ill. Secy., Jacob A. Harman, Peoria, Ill.

ROCHESTER ENGINEERING SOCIETY.—The annual meeting of this society was held on Dec. 16. The following officers were elected for the ensuing year: Pres., William Jordan; First Vice-Pres., Wm. R. Storey; Second Vice-Pres., C. C Laney; Secy., John F. Skinner; Treas., Robert Cartwright.

THE ENGINEERS' SOCIETY OF WESTERN PENNSYLVANIA.—A regular meeting of this society was held at Pittsburg, Pa., on Dec. 20. The paper of the evening, entitled "Design and Construction of the 29th St. Power Station of the Consolidated Traction Company," was read by Mr. G. F. Greenwood, Chief Engineer and General Manager of the company.

THE ELECTRICAL TRADES SOCIETY OF NEW YORK, a society composed of manufacturers of electrical goods, held a meeting at the Astor House, New York city, on Dec. 6, at which it was decided to file incorporation papers under the New York State laws.

The following officers were elected for the ensuing year: Pres., R. E. Gallaher; Vice-Pres., C. P. Geddes; Secy.-Treas., A. P. Eckert.

ENGINEERS' CLUB OF CINCINNATI.—This club held its annual meeting on Dec. 15 with an attendance of over 40. Routine business was transacted, after which the customary banquet was enjoyed. The officers elected for the ensuing year are as follows: Pres., Schuyler Hazard; Vice-Pres., T. B. Punshon; Secy.-Treas., J. F. Wilson; Directors, A. O. Elzner, W. C. Jewett and L. E. Bogen.

BOSTON SOCIETY OF CIVIL ENGINEERS.—This society attended a meeting of the Society of Arts held in the new Pierce Building of the Institute of Technology, on Dec. 22, to inspect the equipment of the new building. Descriptions of the heating and ventilating, and electric light equipments were given by Prof. S. Homer Woodbridge and W. L. Puffer. The apparatus in the mechanical laboratories was inspected and the large Emery testing machine was shown in operation.

ENGINEERS' CLUB OF ST. LOUIS.—The annual meeting and dinner of this club was held at the Mercantile Club, Dec. 21. Previous to the toasts officers for the ensuing year were elected as follows: Pres., B. H. Colby; Secy., E. R. Fish; Treas., Thos. B. McMath; Librarian, E. J. Jolley; Directors, J. H. Kinealy and John A. Laird; Members of the Board of Managers of the Association of Engineering Societies, J. B. Johnson and Richard McCulloch. Richard McCulloch, Secy.

THE AMERICAN CHEMICAL SOCIETY.—The 18th annual meeting of this society opened on Dec. 27 at the House of the Chemists' Club of New York, 108 W. 55th St., New York city. Hon. Randolph Guggenheimer, President of the City Council, welcomed the society to New York. Prof. Alexander S. Webb, President of the College of the City of New York, spoke in behalf of the educational institutions of the city. The President of the society, Mr. Chas. E. Monroe, responded, and the reading of the papers was then taken up.

CONNECTICUT ELECTRIC LIGHTING ASSOCIATION.—The annual meeting of this association was held at New Haven, Conn., on Dec. 17. Papers were read by Prof. W. L. Robb on the "Use of Rotary Transformers and Storage Batteries by the Hartford Electric Light Co.," and on "The Merits and Demerits of the Welsbach Lamp," by H. L. Purrington.

The following officers were elected for the ensuing year: Pres., James English; First Vice-Pres., C. A. Learned; Second Vice-Pres., C. H. Nettleton; Secy., A. F. Hunie; Treas., A. M. Young.

UNDERWRITERS' NATIONAL ELECTRICAL ASSOCIATION.—The 6th annual meeting of the Electrical Committee of this association was held in New York city, Dec. 6-8. Such matters as specifications for standard electric light fittings and slight changes in the national electrical code were discussed. A committee was appointed to formulate specifications for tests of rubber covered wires.

Several resolutions were passed recommending the general adoption by all underwriters' associations of a List of Approved Electrical Fittings. This is a list of fittings approved by the National Board of Fire Underwriters.

MONTANA SOCIETY OF ENGINEERS.—A regular meeting of this society was held on Dec. 10, at which Mr. Francis W. Blackford read a paper on the "Butte-Centerville Electric Ry.," in which the construction of this road was fully described. The next meeting, to be held at Helena, Mont., Jan. 12-14, will be the 12th annual meeting. Mr. M. S. Parker will present a paper upon the "Big Hole River Dam." The State Engineer's Bill will also come up for discussion. Excursions will be made to the dam at Canyon Ferry, Missouri River, the Peck concentrator, East Helena and the East Helena smelter.

A. S. Hovey, Secy.

NORTHWESTERN ELECTRICAL ASSOCIATION.—The 7th annual convention of this association will be held at Milwaukee, Wis., on Jan. 18-19.

The following papers will be read: "Trend of Central Station Design," B. J. Arnold, Chicago; "Meter-rate Systems," E. L. Debell, Sheboygan, Wis.; "Design of Secondary Circuits in Alternating Plants," George L. Thayer, Belle Plaine, Ia.; "Electricity Direct from Coal," Prof. A. J. Rogers, Milwaukee, Wis.; "Inductive Loads on Alternating Current Transformers," Prof. D. C. Jackson, Madison, Wis.; "Electric Vehicles and Their Relation to Central Stations," H. M. Maxim, Hartford, Conn.; "Association Management," H. L. Doherty, Madison, Wis.

WESTERN SOCIETY OF ENGINEERS.—At the meeting on Dec. 21, Mr. W. H. Finley, Bridge Engineer of the Chicago & Northwestern Ry., described the design and erection of the new Kinzie St. drawbridge over the Chicago River. It is a riveted lattice structure, replacing an old pin-connected bridge built of "Hay" steel, which is hard and brittle. In order to provide an increased width of channel and still prevent interference with the adjacent Kinzie St. highway bridge, the railway bridge has its pivot under one of the trusses. On the inner side of the roller tracks are top and bottom racks, with which engage spur wheels on roller shafts. This is done to prevent any tendency of the rollers to work out from under the bridge. The structure was partially erected on launching ways on land, then hauled out 30 ft. to allow of its completion, the completed structure being then carried by scows to the site, the old bridge being floated away on scows at the same time.

NEW PUBLICATIONS.

THE USE OF COKE BREEZE IN SEWAGE PURIFICATION.—A Paper by Jno. W. Alvord, C. E., read before the Western Society of Civil Engineers, May 18, 1898. Paper; 6 × 9 ins.; pp. 11. Address the author, The Rookery, Chicago.

A number of experiments with filters designed to work at a high rate, both in this country and abroad, are reviewed in this pamphlet.

MUNICIPAL REPORTS.—The following reports have been received, the reports and the names given being those of city engineers, unless otherwise specified: Boston, Mass., Benj. Wells, Superintendent Street Department. Cambridge, Mass., Special Report on Means to Prevent Back Flooding from Sewers, L. M. Hastings. Newton, Mass., H. D. Woods. Central Falls, R. I., W. F. Keene. Easton, Pa., Harrison R. Fehr. Philadelphia, Pa., Thos. M. Thompson, Director Public Works. Wilmington, Del., T. Chalkley Halton, Engineer Sewers. Glenville, O., Report on Sewerage and Sewage Purification for Glenville, O., by John P. Force, Columbus, O. Indianapolis, Ind., J. Clyde Power, Engineer and Superintendent of Parks. Detroit, Mich., Henry D. Ludden. Duluth, Minn., Thos. F. McGilvray, Minneapolis, Minn., W. M. Berry, Superintendent of Parks. St. Paul, Minn., L. W. Rundlett. St. Louis, Mo., A. N. Milner, Street Commissioner. Toronto, Ont., Report on Sewage Disposal, C. H. Rust.

TRADE PUBLICATIONS.

(The standard sizes for pamphlets and trade catalogues recommended by all the principal engineering societies of the United States are: 3 1-2 x 6 ins.; 6 x 9 ins., and 9 x 12 ins.)

STEEL LATH.—Bostwick Steel Lath Co., Niles, O. Pamph.; 6 × 9 ins.; pp. 28; illustrated.

This catalogue contains descriptions and illustrations of the Bostwick patented, perforated metal lath, Holton's patent slip joint eave trough, and a general line of gutters, ventilators, etc., etc.

IRON AND STEEL ROOFING.—Sykes Iron & Steel Roofing Co., Niles, O. Pamph.; 9 × 6 ins.; pp. 40; illustrated.

This is a descriptive catalogue of a general line of corrugated iron and steel roofing and siding.

FRICTION CLUTCHES.—G. D. Grannis, Syracuse, N. Y. Pamph.; 3¾ × 5½ ins.; pp. 15; illustrated.

This pamphlet describes and illustrates the construction and operation of the Jackson friction clutch for which several advantages are claimed in economy and efficiency.

WIRE CABLE FERRIES.—Trenton Wire Co., Trenton, N. J. Pamph.; 5¾ × 8¼ ins.; pp. 7; illustrated.

This pamphlet gives a pretty complete illustrated description of the above company's system of wire rope ferry construction.

VALVES, INJECTORS, STEAM SPECIALTIES, ETC.—The Lunkenheimer Co., Cincinnati, O. Pamph.; 4¾ × 7¼ ins.; pp. 208.

This is a very complete illustrated catalogue of the well-known Lunkenheimer specialties for steam, water, gas and oil.

STRUCTURAL STEEL WORK.—The Pittsburg Bridge Co., Pittsburg, Pa. Pamph.; 6 × 3¼ ins.; pp. 40; illustrated.

This pamphlet is made up chiefly of illustrations of a great variety of bridges and buildings for which the company named has furnished the steel work.

VALVES, EXPANSION JOINTS, STEAM AND WATER APPLIANCES.—Caldwell Wilcox Co., Newburgh, N. Y. Pamph.; 9 × 5 ins.; pp. 20.

This is an illustrated catalogue of a variety of appliances used in connection with steam and water piping, including screens, flexible joints, steam and water separators, or water-catchers, slip joints, etc.

RECENT BALDWIN LOCOMOTIVES.—Baldwin Locomotive Works, Philadelphia, Pa. Pamph.; 9 × 6 ins.; pp. 32; illustrated.

This is No. 9 of the 1898 series of pamphlets describing the locomotives built by the above-named company to American and foreign orders, and it is devoted mostly to heavy locomotives for freight service.

WINTER TOURS: LEHIGH VALLEY R. R.—Passenger Department, Lehigh Valley R. R., New York, N. Y. Pamph.; 5½ × 8 ins.; pp. 44; illustrated.

This pamphlet outlines a large number of tours to the winter resorts of Florida and other southern states, with such details of the natural attractions, hotel accommodations, railway and hotel rates, etc., as are likely to interest the prospective tourist.

STEEL ROOFING.—Canton Steel Roofing Co., Canton, O. Pamph.; 6 × 9 ins.; pp. 128; illustrated.

This is a catalogue and price list of the different forms of stamped sheet metal manufactured by the above company. Among the various forms of plain and stamped work produced are sidings, ceilings, moldings, cornices, gutters and eaves troughs, roofing, ridges, skylights, vanes, ventilators, finials, etc.

FIREPROOF GRAIN ELEVATORS.—Steel Storage & Elevator Cons. Co., Buffalo, N. Y. Pamph.; 6 × 9 ins.; pp. 31; illustrated.

This catalogue gives a very good illustrated description of the steel storage grain elevators and pneumatic grain conveying system of which the above company makes a specialty. Views of a number of elevator plants built by the company in the Western and Central States are given.

STREET SWEEPING MACHINES.—Improved Street Sweeper Co., German National Bank Building, Pittsburg, Pa. Paper; 4½ × 7 ins.; pp. 12; illustrated.

This catalogue describes a pick-up street sweeping machine. The broom is of wire, instead of fiber. The dirt is accumulated in a tank, which is emptied mechanically either at intervals on the street, or at the dump, the broom being raised in case the dirt is to be hauled to the dump.

STEEL ROOFING.—Niles Iron & Steel Roofing Co., Niles, O. Pamph.; 6 × 9 ins.; pp. 25; illustrated.

This catalogue describes the construction of the different forms of steel roofing, ceilings, ridges, gutters and other forms of stamped sheet metal work produced by the company named. Special qualities of roof paints and tools used in laying sheet metal roofing are also described and a price list of all articles is given.

STEAM SHOVELS AND DREDGES.—The Toledo Foundry & Machine Co., Toledo, O. Pamph.; 9½ × 6¾ ins.; pp. 94; illustrated.

The several classes of "Victor" shovels which are built by this firm are quite fully described and illustrated in this pamphlet. It also contains a number of illustrations of dipper dredges built by the same company, together with the "Victor" railway pile driver and the "Victor" turntable.

HOISTING AND CONVEYING MACHINERY.—G. D. Grannis, Syracuse, N. Y. Pamph.; 8½ × 6 ins.; pp. 16; illustrated.

This pamphlet describes and illustrates quite fully the Jackson hoister and conveyor for sewer and trench work, the Jackson rotating hoister and conveyor, and the Jackson revolving, self-propelling pile driver. These machines have been quite extensively used on the Erie Canal enlargement, and on various pieces of sewer work.

"SALAMANDER" FIREPROOFING.—The American Fireproofing Co., Boston, Mass. Pamph.; 6 × 3½ ins.; pp. 32; illustrated.

Salamander is made in rolls, like roofing felt, and is designed to be used as a lining between floors, and in other places where a sound deadener or a dust and air-proof lining is desired. Among the claims made for the material are that it is non-inflammable and a non-conductor of heat, and this pamphlet describes more particularly the results of various tests made to demonstrate these characteristics.

ELECTRICALLY OPERATED TURNTABLES.—The Westinghouse Electric & Mfg. Co., Pittsburg, Pa. Pamph.; 9 × 6 ins.; pp. 12; illustrated.

In this pamphlet the company presents a brief description and a number of illustrations of its special motor car, or "donkey," for turntable operations. The device requires no changes in the turntable proper, and can be attached to any construction of table, and a quite complete account of its construction and operation was given in Engineering News of May 27, 1897, and Aug. 25, 1898.

BRIDGE RAILINGS.—Chester B. Albree, Allegheny, Pa. Pamph.; 9 × 6 ins.; pp. 130; illustrated.

This pamphlet illustrates and describes very briefly a large number of structural and special styles of railings, portal castings, lamp posts, cornice and facias, stairways, etc., for bridges, which are manufactured by the above-named firm. The variety of designs shown is very large and most of them are examples of actual work. In a supplement the pamphlet devotes several pages to the special forms of bridge riveters designed and built by Mr. Albree.

THE REMINGTON TYPEWRITER AFLOAT.—Wyckoff, Seamans & Benedict, New York, N. Y. Pamph.; 9 × 6 ins.; pp. 24; illustrated.

This pamphlet contains handsome half-tone engravings of the different larger vessels of the United States Navy, each accompanied by a brief description giving dimensions, armament, a general outline of the machinery, and other similar details. The statement that each vessel's equipment also includes one or more Remington typewriters constitutes the "trade" feature of the pamphlet, which is in many respects a better handbook of our larger war ships than many more formal and pretentious books which we have seen.

TRANSFORMER DESIGN AND OPERATION.—General Electric Co., Schenectady, N. Y. Pamph.; 8 × 10½ ins.; pp. 38.

This pamphlet, number 9,064 of the General Electric series, is a reprint of two papers on transformers, one, "Alternating Current Transformers from the Station Manager's Standpoint," by Mr. W. F. White, read before the American Institute of Electrical Engineers, and the other, "Transformer Economy," by Prof. W. E. Goldsborough, read before the National Electric Light Association. These are supplemented by several maps of Conshohocken, Pa., showing how a few large transformers were substituted for a number of smaller ones, with a considerable saving in operating expenses. As a further example of the economy of large transformers, the alternating current distribution system at Pueblo, Colo., is shown in the same way. Instruments for making transformer tests are also illustrated and briefly described.

TARGET-READING TACHEOMETER.—Bell-Elliott patent, Messrs. Elliott Brothers, Opticians to the Government, 101-102 St. Martin's Lane, London, England. Paper; 8 × 5½ ins.; pp. 22.

This pamphlet describes the method of using a target-reading tacheometer invented by Mr. George Joseph Bell, Assoc. M. Inst. C. E., of Carlisle, England. The instrument is intended to measure distances and altitudes, when a graduated staff is placed on the point to be measured, and it accomplishes the work of a transit, level and chain at one operation and with extreme accuracy. In general the instrument resembles a transit with level divided wide and compass attached. But it is also provided with a tangent scale, moved by a micrometer drumhead, dividing one full division of 1-16 in. on the tangent scale into 1,000 equal parts; it is read by a microscope. The instrument reads the actual natural tangent of the observed angle, and books of tables are not required for field work. While instruments of this type are not much used in this country, the results obtained with the Bell-Elliott tacheometer are said to be accurate to five places of decimals, and to be more precise than when obtained by the chain. The cost of the instrument complete ranges from $200, for a 4-in. reading to 1', to $250 for a 6-in. reading to 20".

CONSTRUCTION NEWS.

CONDENSED LIST OF CONTRACTS PENDING WITH DATE OF OPENING BIDS.

Bids to be opened.	Work.	Place.	See Eng. News.
Dec. 29.	Street bonds,	Georgetown, Ky.	Dec. 8
Dec. 29.	Asphalt paving,	Louisville, Ky.	Dec. 22
Dec. 29.	Bridge superstructure,	Boston, Mass.	Dec. 22
Dec. 29.	Heating, etc.,	Brockton, Mass.	Dec. 29
Dec. 29.	Pumping station,	Boston, Mass.	Dec. 29
Dec. 29.	Street lighting,	Camden, N. J.	Dec. 29
Dec. 29.	Removing garbage, etc.,	Hudson, N. Y.	Dec. 29
Dec. 30.	Laundry machinery,	Danville, Ill.	Dec. 29
Dec. 30.	Electric light wiring,	Syracuse, N. Y.	Dec. 29
Dec. 30.	Building alterations,	Wilkesbarre, Pa.	Dec. 29
Dec. 30.	Riveted steel pipe,	Pittsburg, Pa.	Dec. 29
Dec. 30.	Repairs to workhouse,	New York, N. Y.	Dec. 22
Dec. 30.	Station house repairs,	New York, N. Y.	Dec. 22
Dec. 30.	Towing garbage scows,	New York, N. Y.	Dec. 22
Dec. 30.	Scow,	New York, N. Y.	Dec. 22
Dec. 30.	Self-dumping cars (6),	New York, N. Y.	Dec. 22
Dec. 30.	Sewers,	East Cleveland, O.	Dec. 8
Dec. 31.	Plans for station, etc.,	Stockholm, Sweden.	June 23
Dec. 31.	Bridge work,	Plattsmouth, Neb.	Dec. 15
Dec. 31.	Steam boilers,	Alexandria, Egypt.	Dec. 15
Dec. 31.	Cleaning market grounds,	Cleveland, O.	Dec. 15
Dec. 31.	Electric lighting,	Eau Claire, Wis.	Dec. 22
Dec. 31.	Water bonds,	Bemidji, Minn.	Dec. 22
Dec. 31.	Road materials, etc.,	New York, N. Y.	Dec. 22
Dec. 31.	Wooden pier,	New York, N. Y.	Dec. 22
Dec. 31.	Bridge,	Columbus, Neb.	Dec. 29
Dec. 31.	Bridges for 1899,	Geneva, Neb.	Dec. 29
Jan. 1.	Electric lighting,	Pleasantville, O.	Dec. 22
Jan. 1.	City hall plant,	Bridgeport, Conn.	Aug. 18
Jan. 1.	Drawbridge,	Cathlamet, Wash.	Nov. 17
Jan. 1.	Water-works,	Pasadena, Cal.	Nov. 17
Jan. 1.	Electric plant,	Pasadena, Cal.	Dec. 1
Jan. 2.	Bridge,	Quebec, Que.	Sept. 20

Advertised, Eng. News, Sept. 29 and Oct. 6.

Jan. 2. Arc lighting, Vincennes, Ind.....Oct. 27
Jan. 2. Storm sewer, etc., Hamilton, O.....Dec. 8
Jan. 2. Bridge, Aspen, Colo.....Dec. 15
Jan. 2. Sea water pmpg franchise, Santa Cruz, Cal. Dec. 15
Jan. 2. Cutting and logging, Cherokee County, N.C. Dec. 22
Jan. 2. Drainage ditch, Ponca, Neb.....Dec. 22
Jan. 2. Water bonds, Stanberry, Mo.....Dec. 22
Jan. 2. Sewers, Kingston, Pa.....Dec. 29
Jan. 2. Bridge work for 1899, Newton, Ia.....Dec. 29
Jan. 2. Bonds, Chatham, N. B.....Dec. 29
Jan. 3. Steel plates, Mare Island, Cal.....Dec. 29
Jan. 3. Naval supplies, New York, N. Y.....Dec. 29
Jan. 3. Public works and supplies, Philadelphia...Dec. 29
Jan. 3. Bridge work, Nelson, Neb.....Dec. 15
Jan. 3. Pipe sewers, Mount Vernon, N. Y.....Dec. 15
Jan. 3. Sewers, Cincinnati, O.....Dec. 15
Jan. 3. Church, Ashland, Ky.....Dec. 15
Jan. 3. Court house, jail, etc., Balsam Lake, Wis..Dec. 15
Jan. 3. Steel bridge, Brookhaven, Miss.....Nov. 24
Jan. 3. Water-works, Gaffney, S. C.....Dec. 1
Jan. 3. Bath plans, Albany, N. Y.....Dec. 8
Jan. 4. Library building, Owatonna, Minn.....Dec. 15
Jan. 4. Bridge work for 1899, Denison, Ia.....Dec. 22
Jan. 4. Drainage ditch (8,300 ft.), Burlington, Ia..Dec. 22
Jan. 4. Steamboat, Fort McHenry, Md.....Dec. 22
Jan. 4. Sewers, Oshawa, Ont.....Dec. 29
Jan. 4. Repair of bridge, Trent, S. Dak.....Dec. 29
Jan. 4. Electric lights, Columbus, Ga.....Dec. 29
Jan. 4. School building, Wapakoneta, O.....Dec. 29
Jan. 5. Sewer, Scranton, Pa.....Dec. 29
Jan. 5. Asphalt paving and sewers, Rochester, N.Y. Dec. 29
Jan. 5. Library building, Cincinnati, O.....Dec. 22
Jan. 5. Pile trestles (3), Sacramento, Cal.....Dec. 22
Jan. 5. Water-works, Darlington, Okla.....Dec. 15
Jan. 5. Macadam roads (17½ miles), Decatur, Ind...Dec.
Jan. 6. Water-gas plant, Johannesburg, So. Africa..Oct. 27
Jan. 6. Extension electric plnt, Johannesburg, S. Af. Oct. 27
Jan. 6. Dredging, New York, N. Y.....Dec. 29
Jan. 7. Gravel road, Valparaiso, Ind.....Dec. 8
Jan. 7. Macadam road (10 miles), Cincinnati, O...Dec. 22
Jan. 9. School building, Wilmington, Del.....Dec. 8
Jan. 9. Water supply, Bucharest, Roumania.....Dec. 15
Jan. 9. Excavatiug, paving, etc., Houston, Tex...Dec. 15
Advertised, Eng. News, Dec. 15 to Jan. 5.
Jan. 10. Portland cemt (12,000 bbls.), Duluth, Minn. Dec. 15
Advertised, Eng. News, Dec. 15 to Jan. 12.
Jan. 10. Pumping engine for dredge, Charleston, S.C. Dec. 15
Advertised, Eng. News, Dec. 15 to Jan. 12.
Jan. 10. Capitol building, Phoenix, Ariz.....Dec. 1
Jan. 10. Sewer bonds ($50,000), Grass Valley, Cal...Dec. 1
Jan. 10. Bridge work for 1899, Hastings, Neb.....Dec. 22
Jan. 10. Jail building plans, Boone, Ia.....Dec. 22
Jan. 10. Telegraph poles, Alberni, B. C.....Dec. 29
Jan. 10. Brick paving, etc., Oskaloosa, Ia.....Dec. 29
Jan. 11. Water-works, Vailsburg, N. J.....Dec. 29
Advertised, Engineering News, Dec. 29.
Jan. 12. Cement, St. Paul, Minn.....Dec. 15
Advertised, Eng. News, Dec. 15 to Jan. 5.
Jan. 12. Power house, Annapolis, Md.....Dec. 22
Jan. 12. Sea wall, Annapolis, Md.....Dec. 22
Jan. 13. Loading garbage scows, etc., New York...Dec. 29
Jan. 14. Park work and plans, Philadelphia, Pa...Nov. 17
Jan. 14. Steam tenders (3), St. Louis, Mo.....Dec. 22
Jan. 14. Piles and stones, St. Louis, Mo.....Dec. 22
Jan. 15. Sewers and drainage, Callao, Peru.....Dec. 1
Jan. 15. Street cleaning, Indianapolis, Ind.....Dec. 15
Jan. 16. Sale of telephone franchise, Duluth, Minn. Dec. 8
Advertised, Eng. News, Dec. 8 to Jan. 12.
Jan. 16. Pipe sewers, Elizabeth, N. J.....Dec. 22
Jan. 16. Broken stone, etc., Tampa Bay, Fla.....Dec. 29
Advertised, Eng. News, Dec. 29 and Jan. 5.
Jan. 17. Water-works bonds, Bozeman, Mont.....Dec. 29
Jan. 17. Macadamizing, Cincinnati, O.....Dec. 29
Jan. 17. Bridge and plans, Binghamton, N. Y.....Dec. 22
Advertised, Eng. News, Dec. 22 and 29.
Jan. 18. Court house plans, Mineola (L.I.), N. Y...Dec. 22
Jan. 18. Water-works, Winchester, Ind.....Dec. 22
Jan. 18. Extending electric plant, Winchester, Ind..Dec. 22
Jan. 18. Sewers, Aiken, S. C.....Dec. 15
Advertised, Eng. News, Dec. 15 and 22.
Jan. 19. Heating, etc., Pottsville, Pa.....Dec. 29
Advertised, Eng. News, Dec. 29 and Jan. 5.
Jan. 19. Steam heating, etc., Akron, O.....Dec. 29
Jan. 19. Docks, dredging, etc., Cleveland, O.....Dec. 29
Jan. 20. Street lighting, Belding, Mich.....Dec. 29
Jan. 20. Revetments, Houghton, Mich.....Dec. 29
Jan. 20. Wharves and dredging, Honolulu, H. I....Dec. 29
Jan. 20. Boilers and machinery, St. Joseph, Mich..Dec. 29
Advertised, Eng. News, Dec. 29 and Jan. 5.
Jan. 21. Building, Washington, D. C.....Dec. 29
Jan. 23. Broken stone, etc., New London, Conn...Dec. 29
Advertised, Eng. News, Dec. 29 to Jan. 19.
Jan. 24. Water-works bonds, Wamego, Kan.....Dec. 29
Jan. 24. Footway tunnel, London, England.....Nov. 10
Jan. 24. Iron bridges (2), St. Thomas, Ont.....Dec. 22
Advertised, Eng. News, Dec. 22 and 29.
Jan. 25. Dormitory building, etc., Phoenix, Ariz...Dec. 29
Jan. 26. Brick, etc., Washington, D. C.....Dec. 29
Advertised, Eng. News, Dec. 29 to Jan. 19.
Feb. 1. Electric light plant, Menahga, Minn.....Dec. 29
Feb. 1. School building, Peoria, Ill.....Dec. 1
Feb. 2. Electric lighting, New Orleans, La.....Nov. 3
Feb. 3. Dredging (1,750,000 c.yds.), Houghton, Mich. Dec 29
Feb. 7. Sale of canal, Annapolis, Md.....Dec. 1
Feb. 10. Jail building, Keyser, W. Va.....Sept. 29
Feb. 13. Water bonds, Reno, Nev.....Dec. 22
Feb. 20. Lift bridge near Taylor St., Chicago, Ill..Dec. 29
Advertised, Engineering News, Dec. 29.
Feb. 25. Court house, Douglass, Ga.....Dec. 29
Mar. 15. Electric r'y (23 miles), Shanghai, China...Nov. 24
Advertised, Eng. News, Nov. 17 to Dec. 8.
Mar. 15. Purchase of water-works, Belem, Brazil...Dec. 1
Mar. 31. Telephone concessions, Shanghai, China..Nov. 24
Advertised, Eng. News, Nov. 17 to Dec. 8.

RAILWAYS.

ARKANSAS & CHOCTAW.—We are informed that this company has built 13 miles in Arkansas and two miles in Indian Territory this year. The line has been located some 12 miles west from Choctaw City, Ark., into Indian Territory, and a preliminary line surveyed to the Chickasaw and Choctaw boundary line, via Doaksville, Goodland and Atoka, a distance of about 130 miles. Mr. Valliant will make a location through Indian Territory and Oklahoma, following Red River; and probably before any more contracts are let. This will require about four or five months. R. H. Keith, Pres., of Kansas City, can furnish any other information. F. W. Valliant, Ch. Engr., Rocky Comfort, Ark.

ARKANSAS, GUTHRIE & CALIFORNIA.—Henry Hudson, Pres., Guthrie, Okla., informs us that surveys were expected to begin last week for this proposed railway from Shawnee to Guthrie and thence northwest to a point on the Chicago, Rock Island & Pacific Ry., a distance of 250 miles. The line will cross the St. Louis & San Francisco at Shawnee, the Choctaw, Oklahoma & Gulf, and the Chicago, Rock Island & Pacific if the road is built to Enid. The prospects for construction are good. J. W. McNeal, Treas.

CHICAGO, ROCK ISLAND & PACIFIC.—Reports state surveys have been completed and that construction work will soon be commenced on the proposed extension from the main line at Chilaska, Ind. Ter., to Fort Sill, Okla., a distance of about 33 miles. W. E. Dauchy, Supt. of Construction, Topeka, Kan.

CHINA.—Press reports from St. Petersburg, Russia, state that the embankment of the Russian railway will soon be partially completed as far as Port Arthur. The railway to Shan Haikwan is making progress. The embankment and cuttings at Niu-chwang have been begun, and are completed for 50 miles from Shan Haikwan onwards. The rails are now being laid, and a temporary bridge erected; the final bridge will consist of 30 spans of 100 ft. each. Thus Niu-chwang will soon be connected with Peking by railway.

CINCINNATI, HILLSBORO & WELLSTON.—C. Gillilan, Portsmouth, O., informs us that a second expert examination of the resources and practicability of this proposed line will be made next January. The route is from the coal fields at Wellston to Cincinnati, via Jackson, Piketon and Milford, O., 112 miles. It is hoped that this report may help to secure the capital needed to commence work early next spring. M. McKeehan, Pres., Hillsboro, O.; P. H. Doyle, Columbus, O.

CLEVELAND, CANTON & SOUTHERN.—Press reports state that this railway will be sold in Cleveland, O., on Feb. 2, at 10 a. m., by Special Master Commissioner Carleton. J. W. Wardwell, Recvr. and Gen. Mgr., Cleveland.

CLEVELAND TERMINAL & VALLEY.—Reports state that the Magnolia Coal Co. has made a contract with this company for the construction of six miles of track from Sandyville to the company's mines at Magnolia, O. Work is expected to begin at once. E. G. Lane, Ch. Engr., Cleveland, O.

COAHUILA & PACIFIC.—We are informed that an important charter has been granted by the Mexican Government to A. W. Lilliendahl for a standard gage railway, 310 kilometers long, from Saltillo to Torreon, the junction of the Mexican Central Ry. and the Mexican International R. R. This line will traverse the rich "Laguna," the great cotton producing belt of Mexico, also passing through Parras, the wine and fruit district. Throughout its entire length the line will be through haciendas of wealth and importance, the owners of which are large subscribers. Surveys are in progress by T. S. Abbott, Ch. Engr., of New York, with headquarters at Saltillo, Mexico. Construction work is expected to begin within one year.

COLORADO, UTAH & WYOMING.—E. H. Saltiel, Trustee, Rawlins, Wyo., informs us that this company was incorporated in Wyoming in 1895, to build a railway 600 miles in length, and that the first proposed section of line to be built is from the Union Pacific Ry., six miles east of Rawlins, to Iron, Wyo., 28 miles, with eight spurs to various iron mountains, coal mines and limestone quarries, about 15 miles additional. Negotiations are now pending and will possibly be concluded in January. The Wyoming Land, Iron & Coal Co., of which Mr. Saltiel is president, has offered to guarantee 500 tons of coal a day to the first company building to Iron, and to further agree to double the tonnage or guarantee 300,000 tons a year, to commence six months after line shall have been put in operation. Many offers have been made, but all except one, which is expected to be considered in January, have been unsatisfactory. It will be a cheap railway to construct, as the country is largely a flat alkali desert, with about 2¼ miles of sand hills, and without any rivers.

FARMINGTON & IRONDALE.—Surveys have commenced at Irondale, Mo., according to reports, for this proposed railway from Irondale, Washington county, to Farmington, through the Flat River lead district, about 20 miles. The company was incorporated Nov. 26 by H. J. Cantwell, William Carter and others.

GEORGES VALLEY.—Reports state that this line, now in operation between Warren and Union, Me., eight miles, will probably be extended to Searsmont, about eight miles north of Union. J. Mitchell, Pres. and Mgr., Union, Me.

HUMBOLDT, DYERSBURG & TIPTONVILLE.—This company was incorporated in Tennessee, Dec. 21, with an authorized capital stock of $1,500,000 to build a railway from Humboldt, in Gibson county, to Dyersburg, and then to Tiptonville, in Lake county, about 60 miles. The incorporators are: F. S. Blake, J. S. McTighe, J. D. McClerkin, W. H. Tucker, J. N. Parker, W. F. Fowler and John F. Hamilton.

KANSAS & SOUTHERN.—J. L. Rodgers, Westmoreland, Kan., informs us that surveys have not yet been made for this proposed line to connect with Blaine or Wheaton, Kan., on the Union Pacific Ry., a distance of 9 or 11 miles, but that they will most likely be completed by Jan. 15. Capital has not been fully secured, but an election has been called to vote aid to the project. The Southern Construction Co., of St. Louis, will do the construction work. Irving H. Wheatcroft, Pres., St. Louis, Mo.

KANSAS, OKLAHOMA CENTRAL & GULF.—Jacob H. Bartles, Pres., Bartlesville, Ind. Ter., informs us that surveys have been made and location completed for 200 miles of this proposed line from Cherryvale, Kan., to Vernon, Tex., via Bartlesville, Ind. Ter., Guthrie and El Reno, Okla., a total distance of 350 miles. About 45 miles have already been graded and are ready for ties and rails. B. J. Dalton, Ch. Engr., Caney, Kan.

KANSAS SOUTHWESTERN.—This company was incorporated in Kansas, Dec. 23, with a capital stock of $8,000,000. The incorporators own the old Anthony branch of the St. Louis & San Francisco Ry., which as bondholders they lately purchased at the foreclosure sale. The property is now operated by the Santa Fe, which, it is reported, will buy it in due time. It is stated in the articles of incorporation that the road is to be extended into Oklahoma and the Indian Territory. The directors are: Samuel Barker, Patrick M. Banker, John S. Hendrie and William N. Long, of Hamilton, Ont.; John Penman, Paris, Ont.; James N. Young of Chicago; Albert A. Newman, of Arkansas City, Kan.; W. E. Blackburn, Anthony, Kan., and James Glover, of Bluff City, Kan. The offices of the company are at Kansas City.

LAKE TAHOE.—This company has been incorporated in California, with a capital stock of $100,000, to construct a narrow gage line from Tahoe City, Cal., to Truckee, on the Central Pacific Ry. Surveys have already been made. The directors are: D. L. Bliss, Carson City, Nev.; D. O. Mills, N. K. Masten and others.

MEXICAN INTERNATIONAL.—Reports state that the extension of this line from Reata to Monterey, Mexico, about 50 miles, will soon be completed. Thos. H. Hubbard, 23 Broad St., New York.

MINNESOTA & IOWA.—This company was incorporated in Iowa, Dec. 23, with a capital stock of $50,000, to construct and operate a line from Sanborn, on the Winona & St. Peter Ry., south to the state line, via Brown, Cottonwood, Watonwan and Martin counties. Marvin Hughitt, Pres.; M. M. Kirkham, Vice-Pres. and Treas.; J. B. Redfield, Secy.; J. M. Whitman and J. B. Redfield, of Chicago; Edward C. Cartney, of Evanston, and W. A. Scott and J. C. Stuart, of St. Paul, are the incorporators.

ONTARIO & RAINY RIVER.—D. F. Burke, Port Arthur, Ont., is stated to have said that the construction of this new line from Port Arthur towards Rainy Lake, 200 miles, is progressing, and that about 400 men are at work on the line. It is expected that by the end of next May the rails will be laid on 20 miles of the roadbed, extending from Stanley station, on the Port Arthur, Duluth & Western Ry., to the Mattawan River. A further extension of ten miles will be made by July, bringing the railway to the Mattawan iron range, thus permitting the shipment of iron ore. There are now 12 survey parties at work between Stanley station and the mouth of the Rainy River. The company hopes to obtain a grant of the $6,400 a mile at the coming session of the legislature, in which case about 4,000 men will be put on construction work next summer, and an effort made to complete the line within two years. E. F. Fauquier, Ottawa, Ont., is the contractor for the first 20 miles. Wm. Mackenzie, Pres., Toronto; T. H. White, Ch. Engr., Port Arthur.

QUEEN ANNE'S.—Reports state that this company has decided to build a branch from Queenstown to Centreville, Md., a distance of seven miles. Right of way has already been secured and the survey is now being made. It is expected that construction will begin this winter or early in the spring and the line will be opened next summer. The company is also considering the advisability of establishing steamer service between Rehoboth Beach and Cape May, a distance of 12 miles. I. W. Troxel, Gen. Mgr. and Ch. Engr., Queenstown, Md.

SABINE PASS & NORTHWESTERN.—This company, which has been incorporated in Texas, with a capital stock of $400,000, proposes to construct a line from Sabine Pass to Bonham, via Palestine, Athens, Canton and Greenville, Tex., a distance of about 300 miles. Surveys have been made between Greenville and Palestine, 100 miles, and contracts on this section will probably be let about Jan. 15. W. H. Brooker, Gen. Mgr., Fort Worth, Tex.

ST. LOUIS, IOWA & NORTHERN.—Preliminary surveys have been made by C. J. Dubois, Macon, Mo., according to reports, for this proposed line. The company is expected to be incorporated soon in Missouri, and to begin work about 25 miles east of Macon and extending north and south.

ST. LOUIS & O'FALLON.—Press reports state that the St. Louis & O'Fallon Coal Co. will soon let contracts for the construction of 12 miles of railway from East St. Louis to the company's mines near O'Fallon, Ill.

SAN FRANCISCO & SAN JOAQUIN VALLEY.—Foley Bros. & Muir, St. Paul, Minn., and Grant Bros., San Francisco, Cal., have been awarded contracts for different pieces of grading between Port Richmond and Pinole, a distance of nine miles. Work on the Franklin tunnel is said to be about half finished. East of this tunnel, two more will be built, one 1,200 ft. in length and the other 300 ft. East of the Contra Costa hills no grading has yet been done. It will be easy work, and the contract will soon be let. From Antioch east 12 miles to the tules half the grading has been completed. Through the tules seven miles of embankment has been thrown up and two miles of bridges and trestles are being built; the embankment is 16 ft. high. The grading from the tules to Stockton, a distance of eight miles, is also being rushed forward. Across the San Joaquin River at Stockton a bridge 240 ft. in length will have to be constructed. Plans for the bridge are now being prepared. A steel viaduct one-half mile long will also be built across one end of the Alhambra Valley. W. B. Storey, Jr., Ch. Engr., San Francisco, Cal.

SAN JUAN & RIO PIEDRAS.—This company has been incorporated in New York, with a capital of $300,000, to construct and operate an electric or steam railway, 7½ miles in length, from San Juan to Rio Piedras, Porto Rico. The directors are: George H. Walbridge, Fernando G. Echeveddia, H. H. Harrison, Edward Schmidt, Lathrop R. Bacon, F. Kingsbury Curtis, Philip H. McMillan, Augustin N. Hand and Wm. B. Parsons, of New York. Reports state that this company recently purchased the street railway in San Juan, which is operated by steam and was formerly owned by Count Ubarri, and that the new owners purpose to change the motive power from steam to electricity. As stated in our issue of Dec. 15, J. G. White & Co., Engineers and Contractors, of New York and Baltimore, informed us that they were interested, and that no immediate changes were contemplated.

SOMERSET.—This company has issued a notice that it will petition the legislature for permission to build an extension to Moosehead from Bingham, Me., the present terminus. On account of previous unsettled litigation the extensions could not be made. As yet no survey has been made of an extension to Moosehead or to a point where connections might be made with the Canadian Pacific or the Bangor & Aroostook. R. W. Dunn, Pres., Oakland, Me.

SOUTHERN PACIFIC.—This company is said to contemplate extending its double track from Oliver to Segura, La., a distance of eight miles. J. T. Mahl, Ch. Engr., Houston, Tex.——Reports state that the Southern Pacific Co. has just placed with several Eastern firms contracts for new cars and locomotives of the aggregate value of about $2,000,000. The new rolling stock comprises 2,500 box cars, 250 flat cars, 250 gondolas or coal cars and 50 locomotives. Most of the locomotives will be of the 10-wheel type, and are intended for the freight service. Quite a number of them will be used on the mountain sections of the road in California. The new box cars will mostly be used in the overland freight service. This is said to be the largest order ever given for equipment at one time by the company.

WABASH.—Reports state that this company is unloading material for the construction of its 27-mile cut-off between Moulton and Albia, Ia. The surveys are completed, specifications are out and contracts will be awarded early in the spring. W. S. Lincoln, Ch. Engr., St. Louis, Mo.

WASHINGTON.—Malcolm M'Dougall, Colonial Bldg., Seattle, Wash., has applied to the commissioners of Kings county for a franchise for the construction and operation of a standard gage railway from Tacoma northward, presumably to Seattle.

WASHINGTON & COLUMBIA RIVER.—The trustees of this company have declared their intention to build seven branch lines in Oregon and Washington of a total length of 160 miles. J. G. Cutler, Ch. Engr., Walla Walla, Wash.

WISCONSIN & MICHIGAN.—Press reports state that this railway, 60 miles in length, has been sold to the Toledo & Ann Arbor R. R. Co. The Wisconsin & Michigan is to be extended six miles, to connect with the Holmes & Son logging line, which extends 40 miles in a northwesterly direction from Pembina. The Holmes road will be extended to tap a big tract of pine timber in Forest and Vilas counties, estimated at 1,000,000,000 ft. This timber will be brought to Marinette to be sawed in Marinette and Menominee mills, and will prolong the life of the mills here many years. Ultimately the Holmes road will be extended to Duluth. The Wisconsin & Michigan extends from Peshtigo Harbor to Faithorn Junction. The company will lay its own tracks into Marinette, Wis. Next year the extension will reach the Menominee iron range.

STREET AND ELECTRIC RAILWAYS.

BIDDEFORD, ME.—It is announced by F. A. Hobart, of Boston, that a contract has been closed and executed with Isaac A. Walker & Son, contractors, of Philadelphia, Pa., to build, equip and put in operation early in the season of 1899 the Saco River Electric R. R., from the Biddeford line to Bonny Eagle, in the town of Standish.

PORTSMOUTH, N. H.—The stockholders of the Portsmouth & Dover R. R. Co. have voted to authorize the Boston & Maine R. R. Co. to extend the Portsmouth Electric St. Ry. through Newcastle, Rye and Hampton, and accept its proposition for the loan of money to complete the road until new stock could be issued to repay the loan. The project of equipping the Portsmouth and Dover line with electricity was not acted upon.

LAKEVILLE, MASS.—N. G. Staples, First Selectman, Lakeville, informs us that no opposition was made to the granting of a franchise to the Taunton & Middleboro St. Ry. Co., at the public hearing on Dec. 17. The proposed route is from Taunton to Lakeville, six miles. Chas. H. Wilson, Pres., Exchange Bldg., Boston, Mass.

TEMPLETON, MASS.—It is reported that work will begin in the spring on the proposed Templeton & Gardner Electric St. Ry., in which P. Blodgett, of Templeton, and others are interested. The company has been incorporated for two years, but its charter has been extended to next March.

WAITSFIELD, MASS.—This town has voted to issue $19,000 in bonds to aid in the construction of the proposed Mad River Valley Electric Ry., from Montpelier to Warren, via Middlesex, Moretown and Waitsfield, a distance of about 26 miles. F. C. Kennedy, Pres., Burlington, Vt.; V. K. Nash, Ch. Engr., Woonsocket, R. I.

BRANFORD, CONN.—The Branford Electric Co., has organized the Branford Electric Ry. Co., with a capital stock of $200,000 to build a line to East Haven. A. M. Young, Pres.; A. E. Hammer, Secy.; A. O. Shepardson, Treas.

ELMIRA, N. Y.—H. M. Herbert, Ch. Engr., Bound Brook, N. J., informs us that the news item in our last issue referring to the construction of the Elmira & Seneca Lake Ry., was correct, except that no contract has yet been made for the ties, poles or labor. The American Engineering Co., Bound Brook, N. J., and 710 Harrison Bldg., Philadelphia, Pa., has the contract to build and equip the line, which will be 17 miles in length, and will be put in operation by May 15. The final location of the line is now being made, after which the dry masonry culverts will be built, piles driven, and the iron work ordered for bridges. Grading and track laying will not be commenced until the frost is out of the ground. The route is from Horseheads to Watkins, via Pine Valley, Millport and Montour Falls. Fourteen miles of the line is on private right of way, all of which has been secured. Gen. John E. Mulford, Pres., of Montour Falls, N. Y.; John Blair MacAfee, Pres. of American Engineering Co.

SCHUYLERVILLE, N. Y.—The company which proposes to build a line from Greenwich to Schuylerville, and in which J. A. Powers, Lansingburg, N. Y., is interested, has bought the water power at Middle Falls, on the Batten Kill.

MORRISTOWN, N. J.—J. E. Melick, of Morristown, informs us that definite facts regarding the proposed electric railway from Paterson to Trenton, N. J., can not be given until about April.

ROSELLE, N. J.—A public hearing will be given here Jan. 6, on the application of the Westfield & Elizabeth Electric Ry. Co., for a franchise to build through this place. Should the franchise be granted it will complete the company's right of way between Elizabeth and Plainfield.

LANCASTER, PA.—It is reported that the Inter-Urban Ry. Co., has decided to build a trolley line from 63d and Market Sts., Philadelphia, to Lancaster, via Williatown Inn, Westchester, Unionville and Quarrytown, with a branch between Oxford and Westchester. For the construction and equipment of the line an issue has been made of $1,000,000 of 5 per cent. 40-year gold bonds, being at the rate of $12,000 a mile. Among those interested are: W. T. Forsyth, Ch. Engr., of Avondale, Pa.; J. P. Thomas, Whitford, Pa.; Dr. G. N. Philips and Marshall S. Way.

MACUNGIE, PA.—An extension of the trolley line from Emaus to this borough, a distance of 3½ miles, is projected. Hugh E. Crilly, Allentown, Pa., is said to be the promoter.

POTTSTOWN, PA.—Joseph MacCarroll, Pres. of Fairmount Construction Co., 723 Walnut St., Philadelphia, Pa., informs us that his company has already received the contract for the construction of the proposed Montgomery & Chester Electric Ry. from Pottstown to Phoenixville, via Limerick Square, Royersford and Spring City, a distance of 16 miles. The rights of way between Spring City and Phoenixville have been obtained and the necessary capital for construction secured. The incorporation of this company was noted in our last issue. John S. Ridgway, Pres., Philadelphia.

BALTIMORE, MD.—J. G. White & Co., of Baltimore, and 29 Broadway, New York, have the contract for building an extension of one mile to connect the Baltimore, Middle River & Sparrow's Point Electric Ry. with the Fairmount Ave. line of the Central Ry.

NORFOLK, VA.—Reports state that the Norfolk & Atlantic Terminal Ry. Co. has asked permission of the city council to build a trolley line in the city. This road is proposed from Norfolk to a point on Chesapeake Bay, nearly opposite Old Point Comfort. D. Lowenburg, Pres., Norfolk.

CHATTANOOGA, TENN.—The Chattanooga Electric Ry. Co. is said to contemplate the extension of its Carter St. line to the factories west of Cameron Hill. J. H. Warren, Pres.

HAMILTON, O.—Press reports state that a company has been incorporated by J. C. Hooven, G. A. Rentschler, C. E. Hooven, George Heivey, Fred. Shaffer and Stanley Shaffer, of Hamilton, with a nominal capital of $25,000, to build from the terminus of the Cincinnati Consolidated line at Anderson's Ferry, seven miles below Cincinnati, to the towns of Lawrenceburg, Aurora and Rising Sun and the "Queen City," a distance of 38 miles. Rights of way and franchises have been secured from the Indiana line to Aurora, and the preliminaries necessary for a continuation to Rising Sun, will soon be completed.

MARION, IND.—Charley L. Harry, Supt. of Kokomo St. Ry. Co., has filed petitions with the commissioners of Tipton and Hamilton counties asking for the right of way for an electric railway extending from Tipton south through Atlanta, Arcadia and Cicero to this city. E. H. Shirk, Pres. of the Tipton National Bank, is also said to be interested in the proposed line.

NEW CASTLE, IND.—The commissioners of Henry county, Dec. 16, granted a franchise to the New Castle Electric Ry. Co., consisting of E. B. Phillips, R. Wisehart, Thad. Gordon, D. P. Jennings, Dr. J. F. Thompson and T. B. Millikan. The franchise requires work to begin before Oct., 1899, and one of its proposed lines to be finished within six months from that time.

FLINT, MICH.—The common council Dec. 21 granted W. E. Avery, of Detroit, and Dan. L. Davis, of Pontiac, Mich., a 30-year franchise to build an electric street railway system in Flint, to be operated in connection with a line to be built to Long Lake. Work is to begin March 1, and cars are to be running to the lake by June 15. The franchise provides for a guarantee bond of $5,000.

CHICAGO, ILL.—The People's St. Ry. Co., of Chicago, has been incorporated with a capital stock of $10,000, by Joseph W. Latimer, Robert R. Reynolds and J. Guy Latimer, according to reports.—It is announced that the Northwestern Elevated R. R. Co., of this city, has closed negotiations for $4,500,000 whereby it will be enabled to resume work on its proposed elevated system. The directors of the company will be C. Ledyard Blair, of New York; Edward L. Brewster, Clarence Buckingham, Bryan Lathrop and D. H. Louderback, of Chicago; W. W. Miller, of New York, and John C. Welling, of Chicago.

HARVEY, ILL.—It is announced that the Chicago Electric Traction Co., will extend its line from Blue Island to Harvey in the spring. J. S. Bache, Pres., 88th St. and Vincennes Road.

KENOSHA, WIS.—John C. Wegner, of Milwaukee, Wis., has made application for a street railway franchise in Kenosha in behalf of the Kenosha Traction Co.

IOLA, KAN.—Work has begun, according to reports, on the proposed line of the Iola Rapid Transit Co., in this city. This company was incorporated May 17, with a capital stock of $10,000, to build between Iola and Laharpe and Moran. Alfred W. Beck, Secy.

LEAVENWORTH, KAN.—Amos A. Fenn, of Leavenworth, and others, have been granted a franchise to build an electric line between this city and Kansas City, to cost about $400,000. A power house will be built near Wallula.

OMAHA, NEB.—An extension of the Omaha St. Ry. in the spring is said to be projected. D. H. Goodrich, Secy.

FENTON, MO.—Reports from St. Louis state that the McCoy Construction Co. will begin at once the construction of the proposed Fenton & Southwestern Ry., from Fenton to Carondelet, St. Louis, a distance of 28 miles. Thos. F. Sneed, Pres.

GALENA, MO.—A. H. Rogers, Pres. of Southwest Missouri Electric Ry. Co., is stated to have said that his company intends to build a power house at Galena, so as to be able to extend the line through to Empire City, Riceville and Spring Grove.

ST. LOUIS, MO.—The St. Louis County St. Ry. Co. has filed a petition with the county commissioners for leave to substitute electricity for the present mule motive power. M. B. Greenfelder, Pres., Central P. O., St. Louis county.

PINE BLUFF, ARK.—Jeff Hicks, Pres. of Pine Bluff Electric Light & St. Ry. Co., of Pine Bluff, informs us that contracts for the construction of the proposed seven miles of electric railway for this company will be let not later than Jan. 10. Bonds are now being placed. This company was incorporated Dec. 6, with a capital stock of $300,000.

ELECTRIC LIGHT AND POWER.

EVERETT, MASS.—The petition of Perry D. Blackden for permission to construct and maintain an electric lighting plant here will be referred to the next city government.

HARTFORD, CONN.—The Housatonic Power Co. will petition the general assembly for an amendment to its charter, giving it the right to build a dam across the Housatonic River, between Bridgewater and Brookfield, and the right to conduct electricity from New Haven county to points in Hartford county. The company intends to obtain power from the water fall created by the construction of one or more dams for the generation of electricity.

ALBANY, N. Y.—Plans for the establishment of an electric light plant at the penitentiary whereby all the county building in this city and possibly Watervliet and Cohoes will be lighted, have been presented to the board of county supervisors.

CANANDAIGUA, N. Y.—Reports state that the village trustees have refused the petition of M. D. Munger for the operation of an electric light plant. Mr. Munger will petition the new board when organized.

CLEVELAND, N. Y.—A fire here, Dec. 18, destroyed the electric light plant which furnished the light and power for the United Glass Co.; loss, about $2,000.

ILION, N. Y.—John V. Schmidt informs us that the question of municipal ownership of light and power plant is being agitated.

LOCKPORT, N. Y.—W. T. Ransom informs us that the plans for developing power at Lockport are not yet completed, and that it cannot be stated at present when work will be started.

NEW YORK, N. Y.—The following bids were received Dec. 17 by the bureau of yards and docks, Washington, D. C., for enlarging the wiring system at the navy yard: Blake & Williams, New York, $19,577; Chas. L. Eidlitz, New York, $16,529; Commercial Construction Co., New York, $16,108; J. F. Buchanan Co., Philadelphia, Pa., $15,555; T. M. Mowrey, New York, $21,000; New York Electric Equipment Co., New York, $16,870; Western Electric Co., New York, $18,360.——The following bids were also received, according to reports, for extending the electric light system at the navy yard (a, engines, dynamos, etc.; b, condensors, insulators, pumps, piping, etc.): Eddy Electric Mfg. Co., Windsor, Conn., a, $18,300; b, $6,366; a, Ball engines, $21,500. Ridgway Dynamo & Engine Co., Ridgway, Pa., a, $20,977; alternate, deduct $650. Burhorn & Granger, 136 Liberty St., New York, a, $19,-191.62; b, $6,371. Sheppard engines. Triumph Electric Co., Cincinnati, O., a, $20,575. Francis Bros. & Jellett, Philadelphia, a, $22,700, $23,100, $23,700 and $24,200; b, $21,200. Northern Engineering Co., New York, a, $19,-167; Ball engines, $21,972; Armington-Sims engines, a, $20,982; b, $5,278. Thresher Electric Co., Dayton, O., Buckeye engines, a, $18,401; Ball engine, a, $20,026; $26,766; Watertown, $16,486. Siemens & Halske Electric Co., Philadelphia, a, Ball, $21,237; Ball, $21,987; A. & S. engines, $19,962; do., one wheel, $20,362; Watertown, $18,612, type I dynamos; Ball, $20,762; do., $21,512, A. & S., $19,962, A. & S., $20,362; Watertown, $12,612. Type D internal armature dynamos. Bullock Electric Co., New York, a, Wells engine, $18,975, or Watertown engines, $21,150; Ball engines, $21,150. General Incandescent Arc Light Co., New York, a, $19,000. General Electric Co., New York, a, $18,500; one extra engine, $1,500 more. Western Electric Co., New York, a, (a) $20,932, (b) $21,614, (c) $27,845; b, (a) $6,602, (b) $7,896; (a) Standard Ball; (b) Standard Ball, Western dynamos; (c) Ball & Wood engines; (d) Western dynamos.

NEW YORK, N. Y.—Reports state that the New York Gas, Electric Light, Heat & Power Co. has purchased land between 95th and 96th Sts., 1st Ave. and the East River, and also on Berrian's Island. The erection of a power plant on the latter and a distributing station on the former in order to furnish light and power for New York city is projected. W. C. Whitney and John D. Crimmins are interested.

CAMDEN, N. J.—Bids are asked until 7.30 o'clock, Dec. 29, for lighting the streets of this city with incandescent and arc lights for the terms of one, three and five years, beginning July 1, 1899. Chas. C. Southard, Chn.

SYRACUSE, N. Y.—Bids will be received until Dec. 30 for the wiring, etc., of the Washington Irving school building for electric lighting. P. D. Cooney, Clk.

SWEDESBORO, N. J.—H. W. Ridgway, Secy., informs us that nothing has been done towards the proposed electric light plant.

VINELAND, N. J.—The Citizens' Committee of this place will petition the property holders for $140,000 in bonds for electric light, water and sewerage improvements.

WILDWOOD, N. J.—L. R. Baker informs us that no steps have been taken towards securing an appropriation or awarding contracts for proposed electric light plant.

EASTON, PA.—The Easton Power Co., according to reports, will soon begin the erection of an electric light plant at this place. T. A. H. Hay, Easton, Pres.; L. L. Fletcher, Boston, Mass., Supt. of Construction.

BALTIMORE, MD.—Reports state that Thos. F. Hayward has purchased the charter of the Wenstrom Electric Light Co.

SALISBURY, S. C.—It is reported that the Yadkin Power Co. contemplates the erection of a plant.

SPARTANBURG, S. C.—J. L. Carson informs us that preliminary estimates for an electric light and power plant are being sought to see whether it would be a paying investment.

ATLANTA, GA.—George Hillyer informs us that the people voted in favor of municipal ownership of power plant last October, and that the problem will be considered by the new council taking office Jan. 1.

COLUMBUS, GA.—Bids will be received until Jan. 4 for 100 arc lights in old city and 15 in annex, 200 c. p. each. M. M. Moore, Clk. of Council.

TUSKEGEE, ALA.—The legislature has passed a bill authorizing the issuance of $30,000 water-works and electric light bonds.

TUSKEGEE, ALA.—Alber & Byrne, Engrs., Birmingham, Ala., have been engaged by this city to prepare plans and specifications for a plant in this city. Contracts will be let about Feb. 1.

LAKE PROVIDENCE, LA.—This city has voted in favor of the issuance of $7,500 of water and electric light bonds.

NEW ORLEANS, LA.—Alfred Raymond, Cy. Electrician, informs us that no plans have been made for an electric light plant for this city. Light will be supplied by the present contractor until the end of 1902.

RICHMOND, KY.—The Richmond Electrical Co. has been organized with a capital stock of $10,000 to erect a plant at this place. J. D. Hariss, Pres., Cincinnati, O.; F. H. Adair, Supt., Carlisle, Ky.

NEW PHILADELPHIA, O.—The injunction which restrained the work being done by Mr. Beyer has been dissolved.

NEW RICHMOND, O.—The following contracts were awarded for the construction of an electric light and water-works plant, the engine only being omitted: Rumsey & Co., Seneca Falls, N. Y., pump, $1,950; American Pipe & Foundry Co., Chattanooga, Tenn., pipes and special castings, $6,766; R. D. Wood & Co., Philadelphia, Pa., hydrants, 6-in., $22.50, 4-in., $19.80; Bourbon Copper & Brass Works, Cincinnati, O., valves, 10-in. at $18.50, 8-in. at $13, 6-in. $9, 4-in. $5.65,; Standard Boiler & Bridge Co., Bellaire, O., building (including smokestack), boilers, well and intake, reservior and pipe-laying, $11,268; Westinghouse Electrical & Mfg. Co., Pittsburg, Pa., electric light system complete, $5,000.

SIDNEY, O.—The council proposes to issue $15,000 in bonds for constructing a plant.

INDIANAPOLIS, IND.—A power house is being designed for John H. Murphy for supplying power and light to small manufacturing concerns in this city. The building will be five stories high, 90 × 250 ft., and will cost from $40,000 to $45,000.

MUNCIE, IND.—The electric light plant here was damaged by a natural gas explosion, Dec. 16, to the extent of about $5,000.

BELDING, MICH.—We are informed that bids will be received until Jan. 20 for street lighting. Fred. P. Smith, Cy. Clk.

DETROIT, MICH.—It is probable that an additional plant will be necessary for Belle Isle; estimated cost, $10,000. D. W. Simons, Comr.

GRAND RAPIDS, MICH.—The council has decided to spend $16,000 for the purchase of the electric light towers from the Grand Rapids Electric Light & Power Co.

MOUNT PLEASANT, MICH.—The following bids were received Dec. 20 by the Indian Office, for installing an electric light plant at the Mount Pleasant School: Arthur Frantzen & Co., Chicago, Ill., plant complete, $4,351; Fort Wayne Electric Corporation, Fort Wayne, Ind., plant complete, $3,500; W. C. Nagel & Co., Toledo, O., plant complete, $2,500; Fisher Electric Mfg. Co., Detroit, Mich., dynamo and switchboard, $790; Ridgway Dynamo & Engine Co., Ridgway, Pa., engine, generators and foundation, $2,221; Westinghouse, Church, Kerr & Co., New York, engine belting, etc., $1,410; Bullock Electric Mfg. Co., Cincinnati, O., generators, $735; switchboard, $115.

WAUKEGAN, ILL.—Reports state that the committee on electric lighting has engaged Foree Bain, of Chicago, to furnish estimates for an electric light plant. Com., Aldermen Rice, Garvin and Welch.

LITTLE FALLS, MINN.—F. E. Hall, Cy. Clk., informs us that nothing will be done towards the proposed water and electric light plant until some time in January.

MENAHGA, MINN.—Carl Eastwood informs us that bids for the electric light plant will probably be received Feb. 1; estimated cost, $4,000.

EAU CLAIRE, WIS.—Reports state that the Chippewa Valley Electric Ry. Co. contemplates the construction of a power plant and will bid for the contract for city lighting.

SIOUX CITY, IA.—The Iowa Building Co. has closed a contract for the purchase of a $4,000 electric light plant for the Iowa building, according to reports.

CENTRAL CITY, NEB.—Reports state that the construction of an electric light plant in this city is contemplated.

O'NEILL, NEB.—Reports state that the electric light plant will be started again. A. W. Johnson, Treas. Western Electric Association of Omaha, and A. Minnick, Falls City, Neb., are interested.

HASTINGS, NEB.—Reports state that the establishment of another electric light plant at this place is projected.

WICHITA, KAN.—The construction of the electric light plant will begin soon. L. B. Bradley, of the Western Engineering & Construction Co., Chicago, Ill., will superintend the work.

SEDALIA, MO.—W. H. Powell has petitioned the city for an electric light franchise.

PRAIRIE GROVE, ARK.—Reports state that this place will soon build water-works and an electric light plant.

HOUSTON, TEX.—The Citizen's electric light plant will be constructed by the General Electric Co. Gus. Warnecke has contracted with the Electric Company for supplying the new plant with a 6-in. artesian well.

REDLANDS, CAL.—F. G. Ferand, Secy., informs us that the Redlands Electric Light & Power Co. desires bids for 13 tunnels, ten miles of pipe line 22 to 28-in., four generators, and four water-motors, power house, two exciters, switchboard, transformers, and 80 miles of transmission line. Cost of plant is estimated at $250,000. F. C. Finkle, Engr., San Bernardino, Cal.; H. H. Sinclair, Gen. Mgr.

PRESCOTT, ONT.—The citizens of this place will vote for $15,000 electric light bonds on Jan. 2.

WINNIPEG, MAN.—F. A. Cambridge, Cy. Electrician, informs us that the issuance of bonds for the proposed electric light plant has been dropped for the present; estimated cost, $50,000.

NEW COMPANIES.—Milo Electric Light & Power Co., Milo, Me.; $10,000, commencing with $150; to supply electricity for lighting, heating and manufacturing purposes; Julian d'Este, Boston, Mass.; Frank E. Guernsey, Clk., Dover, Me.

Donley Electric Light Co., Lansing, Mich.; $40,000.

Perry Electric Co., Peoria, Ill.; $2,500; Nathaniel V. Perry, Ralph E. Seymour and Dwight R. Chapman.

Britton Power & Electric Light Co., Britton, S. Dak.; $3,500; to operate artesian well, water-works system and an electric light plant at this place; Charles Hamilton, Henry L. Stokes, Eugene A. Cooper, George Thiel and Joseph Barber.

Artesian Water, Ice, Light & Fuel Co., Arkansas City, Ark.; $25,000; J. E. Lacy, Pres.; H. F. Bailey, Vice-Pres.; H. Thane, Secy. and Treas.

Elizabeth Lake Water & Power Co., Los Angeles, Cal.; $500,000, commencing with $250,000; S. R. Thorpe, W. H. McCoy, C. E. Hayne, P. J. Kennedy and C. C. Wright, all of Los Angeles.

Cuban Electric Co., Asbury Park, N. J.; $1,000,000; to manufacture electricity for light, heat and power; Wm. R. S. Melvin, East Orange, N. J.; G. K. B. Wade, 1 East 42d St.; Herbert A. Howell, 350 West 22d St.; Henry K. Davis, 534 East 104th St., New York; Francis A. Fuller, 455 Halsey St., Brooklyn, N. Y.

BRIDGES.

BOSTON, MASS.—Wm. J. Marvin, Bridge Comr., Cambridge, has recommended in his annual report the construction of two new bridges over the Charles River, to replace the Craigil and North Harvard St. bridges.

BRIDGEPORT, CONN.—The board of aldermen voted Dec. 19 to ask the state legislature for power to issue $60,000 in bonds for the proposed new draw bridge over Yellow Mill Pond.

BATAVIA, N. Y.—The town board is considering a proposition to construct a bridge over the New York Central & Hudson River R. R. and the Erie R. R., at Jackson St. Justice Leavenworth, Com.

RENSSELAER, N. Y.—Robert H. Strong submitted the lowest bid, Dec. 20, at $4,982, for extending Washington St., and constructing a bridge over Mill Creek. C. A. Ryan, Cy. Clk.

TROY, N. Y.—The Albany Ry. Co. will construct a new bridge over the canal, according to reports.

TUPPER LAKE, N. Y.—W. E. La Fountain, Supervisor, Tupper Lake, writes us that he awarded a contract, Dec. 22, to the Groton Bridge Co., Groton, N. Y., for the construction of a steel bridge 160 ft. long, roadway 16 ft., capacity 100 lbs. per sq. ft., on four cylinder piers, 4 × 24 ft.

PHILADELPHIA, PA.—Bids were received Dec. 13 for a bridge at Sheaf Lane, from S. Gourley, Jr., 21st St. and Ridge Ave., Philadelphia (accepted), at $6,392, and Delaplaine & West, Fidelity Bldg., Philadelphia, at $4,957. Thos. M. Thompson, Dir. Dept. Pub. Wks.

CARROLLTON, KY.—The fiscal court has appropriated $20,000 for the construction of a bridge over the Kentucky River.

LORAIN, O.—We are informed that the following bids were received Dec. 22 for constructing the superstructure of a lift bridge over the Black River at Erie Ave., as advertised in Engineering News. Geo. H. Lewis, County Audr., Elyria, O.:

*King Bridge Co., Cleveland, O.	$145,000
Variety Iron Works, Cleveland, O.	150,000
Youngstown Bridge Co., Youngstown, O.	154,000
Groton Bridge Co., Groton, N. Y.	148,800
**C. L. Strobel, Chicago, Ill.	144,100
Wrought Iron Bridge Co., Canton, O.	148,000
Mt. Vernon Bridge Co., Mt. Vernon, O.	150,000
Toledo Bridge Co., Toledo, O.	150,000
J. Wagner Co., Milwaukee, Wis.	147,000
Edge Moor Bridge Works, Wilmington, Del.	149,000
Horsehead Bridge Co., Horsehead, N. Y.	160,000
Massillon Bridge Co., Massillon, O.	150,000
Champion Bridge Co., Wilmington, O.	155,000

*Plan B, $145,200; C, $140,000.
**Plan B, $146,050; C, $144,150.

NORWALK, O.—The council proposes to construct a new steel viaduct at Linwood Ave., to cost about $15,000.

CHICAGO, ILL.—Bids are asked by the board of trustees of the sanitary district until Feb. 20 for furnishing the material and constructing the substructure and superstructure of a two-track Scherzer rolling lift bridge over the Chicago River, near Taylor St., as described in our advertising columns. Wm. Boldenweck, Pres.; Joseph F. Haas, Clk.

FOOSLAND, ILL.—Walter Ritchie, Comr. Highways, Foosland, informs us that a contract has been awarded to the Massillon Bridge Co., Massillon, O., for a bridge south of Bellflower Road.

MINNEAPOLIS, MINN.—The contract for furnishing the steel and iron work f. o. b. cars for the widening of the stone arch bridge over the East Channel of the Mississippi River was awarded by the council, Dec. 21, to the Toledo Bridge Co., Toledo, O., at $10,990. F. W. Cappelen, Cy. Engr.

NEWTON, IA.—Bids are asked until Jan. 2 for bridge work for the year 1899, according to reports. Frank Fisk, County Audr.

COLUMBUS, NEB.—Bids are asked until Dec. 31 for constructing a bridge across Shell Creek, according to reports. G. W. Phillips, County Clk.

GENEVA, NEB.—Bids are asked until Dec. 31 for constructing bridges for the year 1899, according to reports. A. M. Strickland, County Clk.

TRENT, S. DAK.—Bids are asked until Jan. 4 for replacing the Trent bridge, according to reports. H. W. B. Souther, County, Audr., Flandreau, S. Dak.

LEXINGTON, MO.—A bill has been presented to congress for the construction of the proposed bridge over the Missouri River, to cost about $50,000. Frank Bowman, Secy. Com., Lexington.

SEATTLE, WASH.—Reports state that the Great Northern Ry. Line proposes to replace all the wooden bridges with steel structures and fill in trestles west of Minot St., aggregating about 172,560 lin. ft., in the spring. N. D. Miller, Ch. Engr., St. Paul, Minn.

MULBERRY, CAL.—R. T. Stone, County Surveyor, Hollister, writes us that it is proposed to construct a combination bridge of one span, 100 × 18 ft., capacity, 1,400 lbs. per lin. ft., on two cylinder piers 40 ft. in diameter and 22 ft. high, filled with Portland cement 1 to 5 parts; estimated cost, $1,800. There is no other work projected at present.

LEWISTON, IDAHO.—W. E. Moore, Engr., Lewiston Water Power Co., informs us that the Pittsburg Bridge Co., Pittsburg, Pa., has the contract for the sub and superstructure of a cantilever Pratt truss bridge with viaduct approaches. Work was commenced Dec. 15 on the concrete piers. Des. Engr., J. R. Worcester, Boston, Mass.

ELORA, ONT.—The Wellington county court has adopted a resolution to construct a steel bridge at this place, to cost $3,100, according to reports.

SUMMERHILL, ONT.—Reports state that the county commissioner at Seaforth, Ont., recommends the construction of a bridge 100 ft. long on concrete abutments, next spring.

BUILDINGS.

BARRE, MASS.—Competitive plans are being prepared by six architects of Boston and Worcester for a new high school building in this town, to cost $30,000.

BOSTON, MASS.—The contract for erecting the new Quincy St. school building is reported to have been let to James Fagen, at $81,670.

BROCKTON, MASS.—Bids are asked until Dec. 29 for heating and ventilating the Copeland school building (four rooms). A. E. Woodward, Supt. of Pub. Property.

PAWTUCKET, R. I.—The council has appropriated $52,000 for the erection and furnishing of two new school buildings, one to cost $32,000 and the other $20,000.

BROOKLYN, N. Y.—Newman & Co., 355 Allen St., Brooklyn, were the lowest bidders, Dec. 22, for repairs and alterations to the Municipal Building in this city, at $31,750. Other bidders were: Leonard Bros., 963 Bergen St.; Charles Hart, 4th Ave. and Degraw St., Brooklyn; Kelly & Kelley, 220 Broadway, New York.——M. Gibbons & Son, Brooklyn, are said to have been the lowest bidders, Dec. 23, for the erection of a storehouse at the Navy Yard, at $62,975.

NEWARK, N. Y.—The Sherman House in this village was destroyed by fire Dec. 27, causing a reported loss of about $25,000. Stephen F. Sherman, Mgr.

NEW YORK, N. Y.—It is announced that Jacob H. Schiff will erect a new building at 92d St. and Lexington Ave., which he will present to the Young Men's Hebrew Association; estimated total cost, $150,000.——Plans have been filed by Roberts & Haines, 703 East 135th St., for four 5-story brick flat buildings on 136th St., east of Willis Ave., to cost $88,000. Harry T. Howell, Arch., 748 East 138th St.; by Arthur Moore, 232 West 112th St., for three 5-story brick tenement buildings on 108th St., near Columbus Ave., to cost $54,000. C. A. Millner, Arch., 81 East 125th St.; by A. L. Norrie, 17 East 41st St., for a 2-story brick stable at 14 and 16 East 86th St., to cost $85,000. Renwick, Aspinwall & Owen, Archs.; by L. F. J. Weiher, Jr., Owner and Arch., 125th St. and Park Ave., for a 6-story brick flat and store building at 3d Ave. and 81st St., to cost $100,000; by C. F. Rodgers, 1663 Amsterdam Ave., for a 6-story and two 7-story brick flat and store buildings at 142d St. and Hamilton Place, to cost $240,000. Neville & Bagge, Archs., 217 West 125th St.; by Charles Naarden, 138 East 104th St., for four 6-story brick flat and store buildings at 621 to 629 East 9th St., to cost, $100,000. Schneider & Herter, Archs., 46 Bible House; by Leopold Kaufman, 35 Nassau St., for two 6-story brick flat and store buildings at 633 to 637 East 11th St., to cost $50,000. Schneider & Herter, Archs.; by Goodman & Silverson, 233 East 50th St., for five 6-story brick flat and store buildings at 408 to 418 Cherry St., to cost, $110,000. M. Bernstein, Arch., 145 Centre St.; by Mary C. Dempsey, Astoria (L. I.), N. Y., for a 7-story brick flat building at Central Park West and 98th St., to cost $90,000. Neville & Bagge, Archs.——Plans have been prepared for the reconstruction of the burned portion of the Home Life Bldg., 205 and 207 Broadway, and the mason work will be done by John Downey. N. Le Brun & Sons, Archs.—The following bids were received Dec. 20 for installing a steam heating apparatus in the Zbrowski Mansion, Claremont Park: Wm. W. Tobin, 532 Columbus Ave., (accepted), $1,140; Phillips, Doup & Co., Brooklyn, N. Y., $1,164; E. Rutzler, 176 Centre St., $1,222; Wells & Newton Co., 235 Eldridge St., $1,238; Frank Dobson, 576 West 142d St., $1,374; Jas. D. Duffy, 344½ East 16th St., $1,386; Jas. Curran Mfg. Co., 512 West 36th St., $1,421; F. A. Williams, 362 West Broadway, $1,464.

NEW YORK, N. Y.—We are informed that the following bids were received Dec. 23 by the engineer of the 3d Light House District, Tompkinsville (S. I.), N. Y., for the erection of West Bank light house, lower bay, New York Harbor; advertised in Engineering News:

	1st Site.	2d Site.
R. G. Packard, 130 Pearl St., New York	$43,950	$47,775
Philadelphia Construction Co., Phila., Pa.	31,400	35,400
Engineering Contract Co., New York	32,800	36,700
W. H. Flaherty, 7 South St., New York	34,500	37,000
Jas. Symington, 16 Exchange Pl., N. Y.	35,000	40,000

——The following bids were also received for metal work for West Bank light house:

	1st Site.	2d Site.
Emil Severin, Aurora, Ind.	$18,287	$22,677
Snead, Van Alstine, Meidrum Co.[1]	15,430	17,150
Chamblin & Scott, Richmond, Va.	16,993	18,954
Russel Wheel & Foundry Co., Detroit, Mich.	15,645	16,595
Atlanta Machine Works, Atlanta, Ga.	12,445	13,930
Builders' Iron Foundry, Providence, R. I.	14,800	16,300
Jno. P. McGuire, Cleveland, O.	11,700	13,100

[1]Louisville, Ky.

WHITEHALL, N. Y.—The following bids were received by the adjutant-general of this state Dec. 23 for erecting and furnishing a new armory building in this city: John J. Turner, Amsterdam, N. Y., $36,493; Henry E. Wieber, Rondout, N. Y., $45,800; A. Pasquini, Albany, N. Y., $41,512; Peter Keeler, Albany, N. Y., $39,440; Pat McCann, Albany, $38,400; O'Brien & Hoolihan, Syracuse, N. Y., $39,780; William P. Buckley, Oxford, N. Y., $36,864; P. J. McCaffery, Utica, N. Y., $42,000; H. Probst, New York, $47,600; R. Richards & Son, Utica, N. Y., $39,070.50; Andrew Douglass, Rome, N. Y., $32,368.47; J. W. Whalen, Whitehall, $39,000; J. & L. McCarthy, $40,779; Reardon & Burnham, Glens Falls, N. Y., $38,100; For electric wiring the following offered bids: Blake & Williams, $1,683; Gaylord & Eltapence, $1,230; Com. Car Co., $2,155; Seymour Taylor, $1,250. The contracts were to be awarded on Dec. 28, at a meeting of the armory board.

PATERSON, N. J.—A fire in the city last week destroyed Continental Hall; estimated loss, $60,000.

TOM'S RIVER, N. J.—The following bids were received Dec. 21 for the construction of a life-saving station on Berkeley Beach, near the present station at Tom's River:

Bernard Johnson, West Hoboken, N. J., April 15.	$8,966
L. J. Stone, Haddonfield, N. J., June 1	7,100
Henry A. Tolbert, Barnegat, N. J., Sept. 1.	6,650
N. H. Glover Co., Rockland, Me., June 1.	6,700
Wm. L. Butler, Beach Haven, N. J., May 1.	6,490
Chas. W. Kafer, Trenton, N. J., May 1.	7,468

McKEESPORT, PA.—McCallum & Ely, Washington, Pa., have been selected as the architects for the new 3-story brick, stone and terra cotta high school building to be erected on Shaw Ave., McKeesport, at a cost of about $80,000.

PHILADELPHIA, PA.—Bids are being received by J. E & A. L. Pennock, contractors, according to reports, for the erection of an 11-story flat building for the Clarendon Flats Co., at 23d and Walnut Sts. Jas. D. Allen, Arch., 1017 Chestnut St.

POTTSVILLE, PA.—Bids are asked by the supervising architect, Washington, D. C., until Jan. 19, for the low pressure, return circulation, steam heating and ventilating apparatus for the U. S. post-office building at Pottsville.

WILKESBARRE, PA.—Bids are asked until 12 o'clock noon, Dec. 30, for alterations to the City Building. B. H. Carpenter, Chn. of Pub. Property Com.; A. H. Kipp, Arch., Wilkesbarre.

WASHINGTON, D. C.—Bids are asked until Jan. 21, according to reports, for erecting a new building for the "Evening Star" Newspaper Co. Marsh & Peters, Archs., 1503 Pennsylvania Ave.

ATLANTA, GA.—We are informed that the following bids were received Dec. 21 for the erection of a new court house for this county: The Butler-Ryan Co., St. Paul, Minn., granite, $144,080; oolite limestone, $143,420; marble, $146,920; sandstone, $144,350. F. P. Helfner, Atlanta, granite, $136,561; marble, $139,111; oolitic, $135,611; sandstone, $134,461. Lewis B. Beman, Cincinnati, O., granite, $145,835; marble, $148,672; limestone, $144,789. William Bensel & Co., Atlanta, marble, $137,000; granite, $135,400; oolitic, $133,600. Gude & Walker, Atlanta, granite, $131,010; oolitic limestone, $130,040; marble, $133,560; sandstone, $129,900. Chapman & Son, Atlanta, granite, $149,278; oolitic, $148,233; marble, $152,083; sandstone, $149,267. As the appropriation was but $100,000, all of the bids were rejected.

DOUGLASS, GA.—Bids are asked by the commissioners of Coffee county, until Feb. 25, for the erection of a new court house; surety, certified check for $500. Andrew J. Bryan & Co., Archs., 444 Equitable Bldg., Atlanta, Ga.

LEITCHFIELD, KY.—A fire in this city Dec. 27 caused a reported loss of about $80,000; partly insured.

AKRON, O.—Bids are asked by the supervising architect, Washington, D. C., until Jan. 19, for the low pressure, return circular steam heating and ventilating apparatus and pipe covering for the U. S. postoffice building.

WAPAKONETA, O.—Bids are asked until Jan. 4 for erecting a new school building for St. Joseph's Church. Leech & Leech, Archs., Lima, O.

DANVILLE, ILL.—Bids are asked by the National Home for Disabled Volunteer Soldiers, until Dec. 30, for the laundry machinery, engine, etc., for the laundry building at the Danville branch. W. B. Franklin, Pres. Bd. of Mgrs.; W. C. Gunnell, Engr., Danville.

DANVILLE, ILL.—It is reported that the L. J. Mueller Furnace Co., of Milwaukee, has been awarded the contract for supplying the heating apparatus in the Danville Soldiers' Home. The contract is one for material worth $35,000.

JOLIET, ILL.—The Auditorium Block, valued at $80,000, was damaged by fire, Dec. 27.

DES MOINES, IA.—Frost & Granger, Archs., 806-184 La Salle St., Chicago, Ill., inform us that bids will be let in March for the proposed passenger station to be erected in this city at a cost of about $75,000. The main station will be 280 × 40 ft., of stone and pressed brick and tile roof, with a shed 600 ft. in length. Low pressure boilers and electric lights will be installed.

MALDEN, MO.—A fire at Malden, Dec. 20, damaged the Sexton Merchandise Co.'s block and other buildings; reported loss, $70,000.

PHOENIX, ARIZ.—Bids are asked by the Office of Indian Affairs, Jan. 25, for the construction of one brick dormitory and of one water and sewer system at the U. S. Indian school. S. M. McCowan, Supt., Phoenix.

WATER-WORKS.

LIVERMORE FALLS, ME.—The Livermore Falls Water Co. has been incorporated with $100,000 capital; $1,200 paid in. D. J. Bogan, Pres.; J. H. Maxwell, Treas.

WATERVILLE, ME.—A mass meeting was held, Dec. 15, to take steps towards obtaining a new water supply, and a committee was appointed to confer with the cities of Winslow, Fairfield and Benton, with a view to presenting a bill to the legislature for the municipal ownership of the water system now in operation in these places. The Maine Water Co. owns the present system.

BOSTON, MASS.—Bids have been asked until Dec. 29 from the contractors of this city for constructing the new pumping station to be built at Spot Pond, in Stoneham. Shepley, Rutan & Coolidge, Archs.

CLAYTON, N. Y.—Sidney S. Snell, Lowville, N. Y., writes us that the specifications for the water-works and sewerage system for this town will be completed in about two weeks. There will be about five miles of mains and an equal amount of sewers.

EASTHAMPTON, N. Y.—The Home Water Co. has been incorporated with $25,000 capital, to build a plant in this village. A. M. Parsons, A. G. Terbell and J. Hunting are the incorporators.

LESTERSHIRE, N. Y.—Bids have been received for the machinery required for the new works to be built in this village. The contract involves the following: Two triplex pumps with a capacity of 350 gallons a minute; one triplex pump with a capacity of 60 gallons a minute; two gasoline engines of about 40 HP. each, and one gasoline engine of about 8 HP. Two 12-in. wells will be sunk. W. G. Faatz, Chn.; C. A. Cockroft, Engr.

MASSENA, N. Y.—A company is being organized in this place to build works, according to reports. H. B. Chase, Atty.

WHITESBORO, N. Y.—It is reported that the taxpayers voted, Dec. 19, to build works.

JERSEY CITY, N. J.—The board of finance has approved the contract to build a plant in this city, recently awarded to Patrick H. Flynn, of Brooklyn, N. Y., as noted in our issue of Dec. 15.

RIDGEWOOD, N. J.—A committee has been appointed to secure propositions for the building of works, according to report. Trustees Crouter, Stavens and Edwards have been instructed to consider them and report on Feb. 15.

VAILSBURG, N. J.—Bids are asked by the council until Jan. 11 for furnishing the material and constructing a system of water-works, including about 31,680 lin. ft. of 8, 6 and 4-in. iron pipe, 14,000 lbs. of special castings, 45 valves and valve boxes, and 43 hydrants, as stated in our advertising columns. Eugene A. McMurray, Borough Engr., 22 Clinton St., Newark, N. J.

PHILADELPHIA, PA.—Plans for the new 84,000,000-gallon Belmont reservoir, at George's Hill, have been approved of by the committee. Reports state that bids will be called for at once. Thos. M. Thompson, Dir. Pub. Wks.

PITTSBURG, PA.—Bids are asked by the bureau of water supply and distribution until Dec. 30, for laying a 48-in. riveted steel force main to the reservoir in Highland Park. Edw. M. Bigelow, Dir. Pub. Wks.

ROBESONIA, PA.—The Robesonia Water Co. has been incorporated with a capital stock of $10,000, with $1,000 paid in, to build works in this town. H. F. Fidler, of Womelsdorf, Pa., Treas. The other incorporators are Geo. H. Valentine and Wm. D. Filbert, of Womelsdorf; Saml. P. Keppel, Sinking Spring, Pa.; W. W. Light, Reading, Pa.

WASHINGTON, D. C.—It is reported that plans have been completed for a new 15,000,000-gallon reservoir, for which bids will soon be asked. W. A. MacFarland, Supt. of Water Dept.

TUXEDO, MD.—Press reports state that plans and specifications have been prepared by the Tuxedo & Embla Park Water & Light Co. for a system of water-works to be built in this place and Embla Park, and that bids will soon be asked for the construction of the same, involving a 300,000-gallon steel tower, a pump house and about two miles of 4-in., 6-in. and 8-in. cast-iron pipe. Kennedy & Beck have the contract for the 8-in. artesian wells, two of which have been sunk. D. G. Addsberger, Engr.

ROME, GA.—It is reported that this city has decided to install a filtration system.

TUSKEGEE, ALA.—We are informed that Alber & Byrne, Engrs., Birmingham, Ala., have been engaged by the city to prepare plans and specifications, and to superintend the construction of the proposed water-works and electric light plant. The city will be prepared to let the contracts about Feb. 1.

NEW ORLEANS, LA.—A. Brittin, Pres. of Council, writes us that an ordinance has just been adopted for a special tax of 2½ mills to purchase the existing water-works, owned by a private company, and to extend the same, and for building sewers. The ordinance will be voted upon on Feb. 2.

CLEVELAND, TENN.—Reports state that Judge Clark has decided in favor of the city, in a suit against the National Water-Works Construction Co., on the ground that the charter of the company is void. The company has been doing business in Cleveland under the name of the Cleveland Water & Electric Light Co. R. J. Cunningham, Recr.

KNOXVILLE, TENN.—Press reports state that the council has refused to pass an ordinance allowing the Knoxville Water Co. and the Lonsdale-Beaumont Water Co. to consolidate, as the city will soon make an effort to purchase both plants. W. A. Gage, Cy. Engr.

WELLSVILLE, N. Y.—John A. George, East Liverpool, writes us that bids will be asked in about 30 days for furnishing and laying about 1¾ miles of 12-in. water pipe.

GOSHEN, IND.—Bids have been asked for three miles of water mains for an extension across the Elkhart River, at an estimated cost of $10,000, according to press reports.

ROCKPORT, IND.—It is stated that citizens of this town are in correspondence with the state board of health with regard to building works.

HARTFORD, MICH.—It is reported that this town would vote, Dec. 27, on the question of issuing $12,000 in bonds for the erection of works.

MINNEAPOLIS, MINN.—It is reported that the Minnesota Sugar Co., St. Louis Park, has awarded a contract to S. Stenson to sink an artesian well on its property, at a cost of $6,000, with a guarantee of a supply of 1,000,000 gallons a day.

COLFAX, IA.—The council has just bought a pump for $460 from the Gardner Governor Co., Quincy, Ill., having a capacity of 500,000 gallons in 24 hours; it will be installed at once.

GIRARD, KAN.—J. B. Gratham, Cy. Clk., writes us that the council has advertised for bids for a reservoir 80 ft. in diameter and 12 ft. deep to be built of brick and cement. W. S. Hitch, Chn. Water-Wks. Com.

WAMEGO, KAN.—Bids are asked until Jan. 24 for the purchase of $25,000 of water-works bonds. F. S. Haacke, Cy. Clk., write us that the contract for constructing works has been awarded to W. W. Cook, Junction City, Kan., at $22,473. B. F. Evans, Newton, Kan., $22,500.

BOZEMAN, MONT.—Bids are asked until Jan. 17 for the purchase of $165,000 of water-works bonds; check, $2,500. Geo. D. Pease, Cy. Clk.

NEVADA, MO.—J. B. Quigley is reported to have bought the works at this place.

ARKANSAS CITY, ARK.—The Artesian Water, Ice, Light & Fuel Co. has been incorporated with $25,000 capital, to build works in this place. J. E. Lacy, Pres.; H. F. Bailey, Vice-Pres.; H. Thane, Secy. and Treas.

ABILENE, TEX.—N. Werenskiold, Engr., P. O. Box 511, Dallas, Tex., writes us that the work which the Lytle Water Co. proposes doing, as noted last issue, consists of raising the masonry spillway and dam 18 inches, and in building a flood levee to prevent high water from spreading over the land near the dam. The work will be done by day labor. Fred. Cockrell, Pres.; J. Lowdon, Secy. and Treas.

CORSICANA, TEX.—J. S. Thatcher, Dallas, Tex., has just completed a survey for the Corsicana Water Co. of the land on which it proposes to build a large reservoir. A pumping station will also be built.

WACO, TEX.—The city is reported to have secured several acres in East Waco for the establishment of a new system of artesian wells and a large reservoir.

LAKEPORT, CAL.—A special election was held Dec. 20 to vote on bonding the town for $15,400 for the construction of works.

BILLINGS BRIDGE, ONT.—The proposition to build works in this village was defeated, Dec. 15, according to reports.

GANANOQUE, ONT.—The town council is reported to be preparing plans and specifications for the construction of water-works and a sewerage system.

UXBRIDGE, ONT.—Wm. Hoster, Mayor, writes us that the resolution to build works passed the public meeting but nothing more will be done until after the elections are over.

CASCADE CITY, B. C.—The Cascade Water Power & Light Co. has begun the construction of a water supply and electric light plant, according to report. Engr. Anderson may be addressed.

NIAGARA, B. C.—It is reported that S. K. Crocker has secured a franchise to build a water supply system at this place. A dam across Fisherman Creek, 1,500 ft. above the village, will be built, and 5,000 ft. of pipe will be laid.

IRRIGATION.

BEAUMONT, TEX.—The Beaumont Irrigation Co. awarded a contract to the Connorsville Blower Co., Connorsville, Ind., Dec. 15, for installing a pumping plant with a capacity of about 60,000 gals. per minute, to cost about $40,000. J. T. Wilkins, Engr., Connorsville.

PERRIS, CAL.—Reports state that C. J. Ritchie, Los Angeles, Cal., will sink a well and put in a pumping plant at once, to irrigate about 160 acres.

SALT LAKE CITY, UTAH.—R. S. Carberry and F. S. Dettrich, of the Marysville Power & Canal Co., Idaho Falls, Idaho, have applied to the state land board for permission to reclaim about 20,000 acres.

PHOENIX, ARIZ.—A meeting was held by the canal companies in the city hall, Dec. 12, to consider the question of constructing a storage reservoir for the Salt River valley. The building of a reservoir by private capital was considered the most feasible plan. No definite action was taken. Aaron Goldberg of the Territorial Council, may be addressed.——N. W. Haggart and J. H. Ivy have filed a claim for 5,000 ins. of water in Salt River. A canal will be constructed about 8 miles long.

GUERRERO, MEX.—The state government has been asked to give its aid for the sinking of a number of artesian wells in the waterless regions of the state, which, experts say, can be sunk without great expense or difficulty, and would provide ample water for irrigation.

NEW COMPANIES.—Yokohl Water Co., Exeter, Cal.; $24,000; to do an irrigation business; B.T. Teagan, A. D. Moore, Harvey Ferris, James Kirk, E. H. Miles, Exeter.

Silver Lake Irrigation Co., Silver Lake, Ore.; $100,000; to carry on an irrigation business; James M. Small, Gilbert B. Wardwell, James M. Martin, Francis M. Chrisman.

SEWERAGE.

HARTFORD, CONN—A petition is being circulated requesting the selectmen and sewer commissioners to construct sewers in the section known as Charter Oak, according to report. Neil Stalker, New Park Ave., is interested.

NEW BRITAIN, CONN.—Saml. M. Gray, Providence, R. I., has been engaged to furnish plans and specifications for sewerage disposal systems with a view to introducing a system in this city.

ONEIDA, N. Y.—Geo. S. Miller was awarded the contract Dec. 19 to construct a sewer, at $587, according to report.

KINGSTON, PA.—Bids are asked until Jan. 2 for the construction of 9,462 ft. of sewers. P. B. Reynolds, Pres.; Wm. P. Somers, Secy.; Thos. Wright, Borough Engr., Luzerne, Pa.

SCRANTON, PA.—Bids are asked until Jan. 5 for constructing a sewer on Von Storch Ave. and Honesdale St. M. T. Lavelle, Cy. Clk.

STEELTON, PA.—John D. Young, Secy. of council, writes us that the borough has voted to build a sewer system during next summer from plans prepared some years ago by the late Geo. E. Waring. Bids will be asked within a short time.

SALISBURY, N. C.—Dowd & King are reported to have a contract for a private sewerage system in this place.

BIRMINGHAM, ALA.—The aldermen have decided to construct a sanitary sewer to cost about $250. F. V. Evans, Mayor; A. J. Camp, Cy. Clk.

GREENSBORO, ALA.—It is reported that the city will construct about two miles of sewers within the next three months. E. B. Randolph, Mayor.

JACKSON, MISS.—The board of aldermen has ordered an election Feb. 1 on the proposition of issuing $100,000 in bonds for a sewerage system. W. G. Kirkpatrick, Cy. Engr.; D. P. Porter, Jr., Cy. Clk.

DAYTON, O.—Bids will be asked for the construction of a sanitary sewer on Simpson St., from Howard St. to Madriver St., according to report. City Engineer Turner.

EAST LIVERPOOL, O.—John A. George, Cy. Engr., writes us that specifications for about seven miles of 8-in., 10-in. and 12-in. pipe sewers, to cost about $30,000, will be ready in about two weeks. Proposals for pipe will be called for in about a month and for construction in the spring.

ZANESVILLE, ...—The city council has voted to construct brick and tile sewers on five streets and alleys. J. F. Brown, Pres.; C. N. Bainter, Cy. Clk.

TOLEDO, O.—Plans and specifications have been prepared for the construction of sewers in several streets and alleys. Lem. P. Haris, Cy. Clk.

WELLSVILLE, O.—John A. George, East Liverpool, O., writes us that this place is considering the advisability of building a sewerage system.

YOUNGSTOWN, O.—M. Rochford & Sons, are reported to have received the contract for the construction of a sewer in Hayes Ave., noted in our issue of Dec. 15. H. W. Calvin, Clk.

LEBANON, IND.—J. H. Busby, Mayor, writes us that the council is contemplating some improvements in the spring, but has made no definite plans as yet.

NEENAH, WIS.—The board of public works has prepared plans for a sewerage system, with an outlet into Little Lake Butte des Morts, and will hear objections from property owners Jan. 21. W. L. Davis and Ole O. Myhre may be addressed.

NEWTON, KAN.—H. H. Hendershot, Designing and Constructing Engr., Wichita, writes us that the outfall was finished Dec. 6, and work on 1½ miles of 6-in. lateral pipe sewers, to cost about $3,800, has been suspended until spring.

McKINNEY, TEX.—Kelly & Steele, Gainesville, have the contract to build a sewerage system in this city of about seven or eight miles in length.

OKMULGEE, IND. TER.—H. H. Hendershot, Engr., Wichita, Kan., writes us that this city contemplates the construction of a system of sewers.

DENVER, COLO.—The board of aldermen has passed the Capitol Hill storm sewer bill, noted in our last issue.

GANANOQUE, ONT.—The town council is preparing plans and estimates for the construction of a sewerage system, according to report.

OSHAWA, ONT.—Bids are asked until Jan. 4, 1899, for the construction of a complete system of sewers and water-works in this town, at an estimated cost of about $110,000. C. French, Chn. Fire and Water-Works Com.

PEMBROKE, ONT.—The town council has passed a by-law to raise $12,000 to construct main sewers, according to report. A public election to vote on the question will be held Jan. 2.

WINNIPEG, MAN.—W. F. Lee is reported to have received the contract to furnish $900 worth of sewer pipe.

MEXICO, MEX.—Vezin & Letellier are reported to have received the contract to construct sewers in this city.

GARBAGE DISPOSAL—STREET CLEANING

WOONSOCKET, R. I.—The people of this city are discussing the question of garbage disposal.

BINGHAMTON, N. Y.—The board of health is preparing a resolution to be presented to the council, calling attention to the need of a crematory at this place.

HUDSON, N. Y.—Bids are asked until Dec. 29 for removing garbage, etc., for three years. Wm. S. Hallenbeck, Secy.

NEW YORK, N. Y.—Bids are asked until Jan. 13 by the department of street cleaning, at 346 Broadway, for loading and trimming deck scows and dumpers, and unloading the pocket dumps in the boroughs of Manhattan and the Bronx. James McCartney, Comr.

ATLANTIC CITY, N. J.—The following bids were received for the collection of garbage for one, two or three years, beginning Jan. 9, and for building road to the new crematory: Joseph M. Johnson, first year, $10,575, with a deduction of $500 if city provided stabling for horses required; Benj. F. Leeds, first year, $9,875, second year, $10,575, third year, $10,995, with an allowance of $5 a year for city stabling; Alvin P. Risley, Pleasantville, N. J., $15,000 for one, two or three years, with allowance of $5 a year for city stabling; John Unsworth, first year, $13,500, $27,900 for two years, or $43,000 for three years, with an allowance of $5 a year for stabling; Andrew P. Jeffries and Samuel Gregson, bidding jointly, offered to do the work for three years at $10,000; Sylvester Leeds, $14,000 one year, $28,000 two years, and $43,000 for three years, allowing $200 a year for city stabling; John Muirland, first year, $6,400, second year, $6,800, and third year for $7,200. The bids received for building the road to the new crematory, to be 2,800 ft. in length, were those of Alvin P. Risley, of Pleasantville, $5,800, and of Benjamin G. Leeds, $6,878.

MILLMONT, PA.—Beard & McConnell, Reading, Pa., have been awarded the contract, at $2,098, for erecting a building, 30 ft. high and 40 × 65 ft., for the General American Reduction Co.

NEWPORT, KY.—W. L. Glazier, Cy. Engr., has made a report on the disposition of garbage for this city, and has recommended the erection of a crematory and the destruction of garbage by burning. Report will be acted on in January and appropriations then made for same if the council approves of the plans.

STREETS AND ROADS

BRIDGEPORT, CONN.—The board of aldermen voted Dec. 19 to apply to the legislature for power to issue $100,000 for street improvements. Address, Chairman Foster.

ROCHESTER, N. Y.—Bids are asked until Jan. 5 for asphalt paving on South Fitzhugh St., estimated cost, $11,100, and constructing a pipe sewer on Caroline St. and Weddale Way. Chas. M. Beattie, Clk.; Edwin A. Fisher, Cy. Engr.——An ordinance has been passed to pave Bartlett St. with asphalt, to cost about $9,700.

NISKAYUNA, N. Y.—A committee, consisting of John A. De Remer, Andrew J. McMillan and Wm. Kohring, are considering the question of reconstructing the Dennison Road, a distance of 2,000 ft.

PHILADELPHIA, PA.—The department of public works has received the lowest bid for repairing and maintaining roads during 1899, from David McMahon, at $94,800. It will require about 50,000 tons of broken stone.

SCRANTON, PA.—The council received the following bids Dec. 17 for the repair of asphalt pavement for five and ten years respectively: Barber Asphalt Paving Co., $87,600 and $175,200; Pennsylvania Asphalt Paving Co., $93,500 and $187,000; Alcatraz Co., $108,680 and $234,058; George McDonald, $141,756 and $305,293. M. T. Lavell, Cy. Clk.

JACKSONVILLE, FLA.—The board of public works has passed resolutions to pave portions of Adams, Bay, Myrtle and Forrest Sts., with shells.

CINCINNATI, O.—Bids are asked until Jan. 17 for grading, macadam, etc., on Hopson St. Geo. H. Spellmire, Clk. Bd. Cy. Affairs.

HAMILTON, O.—The board of control awarded a contract Dec. 20 to the David Folz Asphalt Paving Co., Cincinnati, O., at $46,100, for paving Second St. from Black to Wood Sts., with sheet asphalt and limestone curbing.

EVANSVILLE, IND.—Bids will soon be asked by the county commissioners for asphalt paving around the courthouse square, including Vine, Fourth, Division and Fifth Sts.

OWOSSO, MICH.—Engineer Riggs has submitted estimates of the cost to the board of public works, for the proposed paving of Main St., between Washington St. and the river, with asphalt, at $42,365, and brick $38,515.

PEORIA, ILL.—The board of local improvements has recommended the proposed paving of St. James St. with brick, a distance of 3,000 ft.

OSKALOOSA, IA.—Bids are asked until Jan. 10 for 15,600 sq. yds. of brick paving, 8,900 lin. ft. of Portland cement curbing, and 500 cu. yds. of grading, on D St. Sam Ver Ven, Cy. Engr.; D. C. Waggoner, Clk.

OMAHA, NEB.—A petition is being circulated for the paving of Farnan St., between 10th and 15th Sts., with sheet asphalt.

HESSELTINE, WASH.—Reports state that the county commissioners, Sprague, Wash., have ordered surveys for the construction of a new road from the post office to the ferry at Columbia River.

LOS ANGELES, CAL.—Ordinances have been passed to grade and gravel portions of Willow and six other streets. J. H. Drain, Supt. Sts.

SEATTLE, WASH.—The council has decided to pave portions of Mattison St. with macadam and sandstone, according to reports.

BELLEVILLE, ONT.—The city clerk desires to obtain prices from the manufacturers of stone crushers and road rollers, according to reports.

MANUFACTURING PLANTS.

MADISON, ME.—O'Keefe & Orbison, Archs., Appleton, Wis., have been awarded the contract for altering the mill of the Manufacturing Investment Co., of this place, according to reports.

OLDTOWN, ME.—The contract for the mill for the Ounegan Woolen Mill Co., has been awarded to M. C. Foster & Son, Waterville, Me.

LINCOLN, N. H.—A fire at this place Dec. 24 destroyed the steam saw mills of J. E. Henry & Sons. Loss, about $80,000; insurance, $51,000.

BURLINGTON, VT.—The plant of the Shepard & Morse Lumber Co., of Boston, Mass., and this city, was destroyed by fire Dec. 24; estimated loss, $250,000.

NORTH ANDOVER, MASS.—The North Andover Cotton Mill was damaged by fire to the extent of $30,000; fully insured.

TIVERTON, MASS.—Billings, Clapp & Co., chemical manufacturers of Newton Upper Falls, Mass., are said to contemplate establishing a plant here.

WORCESTER, MASS.—Reports state that Rice & Hutchins, shoe manufacturers, contemplate moving their factory from Marlboro, Mass., to this city.

NEW BRITAIN, CONN.—A new brewery plant for this city is projected. W. E. Hexamer, Philadelphia, Pa., is said to be interested.

BUFFALO, N. Y.—The Fleischmann Yeast & Vinegar Co., of New York, is reported to contemplate moving its plant to this city.

NEWBURGH, N. Y.—The Granite City Soap Co. will erect an addition 50 ft. square to its factory.

OSWEGO, N. Y.—A. Paine & Son have been awarded the contract for the carpentry work on the new McGowan brewery work, to be completed by Feb. 15.

JERSEY CITY, N. J.—A fire in this city, Dec. 23, destroyed Wittemann Bros.' box factory on Greene St.; estimated loss, $30,000.

DUQUESNE, PA.—Reports state that the Carnegie Steel Co., Pittsburg, will tear down the plant of the Duquesne Tube Works, and erect new works on the site.

EAST LIBERTY, PA.—Local papers report the sale of the property of the National Lead Co., at Sallos Ave. and the Pennsylvania R. R., to the Crystal Lake Ice Co., of Allegheny, which will expend about $100,000 on the erection of an artificial ice plant.

ERIE, PA.—The Ohio Gum Co., Lisbon, O., will remove its plant to this city, according to reports——The Erie Car Works Co., is said to contemplate the enlargment of its plant.

HOMESTEAD, PA.—The Carnegie Steel Co., Pittsburg, is reported to have bought 35 acres of land near this place upon which will be erected a shop, 250 × 1,500 ft., for the manufacture of flat and hopper-bottom freight cars, etc.

MONONGAHELA, PA.—A company is being organized for the purpose of establishing a brewery near here. John A. Senner, Monessen, Pa., is interested.

PHILADELPHIA, PA.—A permit has been granted to Macey, Henderson & Co., Ltd., contractors, for the erection of a 2-story brick machine and smith shop, 169 × 102 ft., to cost $44,000, on Hamilton St., for the Baldwin Locomotive Works. The above contractors have also submitted plans to the bureau of building inspection for a 3-story brick machine repair shop, 193.6 × 60.4 ft., to cost $40,000, for the same firm, to be erected on Buttonwood St.

PITTSBURG, PA.—The Pittsburg Reduction Co. is reported as about to enlarge its plant at New Kensington and to increase the horse power of the Niagara Falls plant to 12,000 HP.——The contracts have been let for the extension of the plant of the Westinghouse Electric & Mfg. Co., which will include a 6-story office building and a large machine shop; reported cost, about $200,000.

READING, PA.—The Reading Iron Co. has been granted a permit for the erection of a building, 40 × 145 ft. and another 45 × 160 ft., for its new rolling mill plant.

SAYRE, PA.—It is reported that the car department of the Lehigh Valley shops will be moved from South Easton, Pa., to this place.

ANNAPOLIS, MD.—The Annapolis Ice Mfg. Co. expects to erect an ice plant on St. Johns St.

BALTIMORE, MD.—The Smith Flexible Chair Co., Washington, D. C., contemplates moving its plant to this city. Eldridge Smith, Washington, D. C., is interested.

WHEEL, MD.—A fire here destroyed the Hollingsworth Spoke & Wheel Co.'s plant; estimated loss, about $40,000.

WHEELING, W. VA.—A fire in this city, Dec. 15, destroyed the Wheeling Paper Mill; estimated loss, $25,000.——The La Belle Iron Co. is said to contemplate the erection of two new plate mills as additions to its plant.

BREWTON, ALA.—It is reported that a contract has been made with Allen, Scott & Co., Chicago, Ill., by the citizens of this place and the Louisville & Nashville R. R., for the erection of a glucose and starch factory here. The plant will probably cost about $500,000.

OWENTON, KY.—Reports state that Arnold & Riley will erect a flour mill with 50 bbls. daily capacity, to be operated by a gasoline engine, in the spring. The firm also contemplates establishing an electric plant.

EVANSVILLE, IND.—The erection of a distillery at this place is projected.

TERRE HAUTE, IND.—The rim, stock and drying rooms of the Standard Wheel Works plant were destroyed by fire Dec. 13; loss, about $20,000; fully insured.

BAY CITY, MICH.—W. D. Young & Co., whose planing mill was recently destroyed by fire will rebuild at once.

COLDWATER, MICH.—Reports state that the Michigan Portland Cement Co. has awarded contracts for the erection of a steel building, 80 × 350 ft., to cost about $100,000.

PONTIAC, MICH.—Woodward Bros., according to reports, will erect a 5-story brick carriage factory, 60 × 80 ft., at a cost of $20,000.

SAGINAW, MICH.—The National Iron Co. is said to contemplate the consolidation of its plants at Toledo and Cleveland, O., and removing them to this place. A. O. Dunk, Treas.

WYANDOTTE, MICH.—The Michigan Alkali Co. have placed an order with the Riter & Conley Mfg. Co., Pittsburg, Pa., for a new steel building for the cement department.

CHICAGO., ILL.—It is reported that the Titan Steel Co. and the Federal Steel Co. will unite and erect a plant at South Chicago and at Kensington for the manufacture of armor plate and shells.

NEW LONDON, WIS.—The factories and warehouse of Page & Lyon, which were destroyed by fire recently, at a loss of $16,000, will probably be rebuilt at once.

ELY, MINN.—The S. Simpson Co. is said to contemplate the erection of a mill on Fall Lake, near this place. The Diamond Iron Works is to supply all the machinery except the engines.

OMAHA, NEB.—The Fred Krug Brewing Co. will soon let the contract for erecting a bottling works, to cost $10,000, according to reports.——The Union Pacific Co. is said to contemplate the erection of new shops in this city.

COLORADO SPRINGS, COLO.—Reports state that the Gillette-Herzog Mfg. Co., Minneapolis, Minn., has been awarded the contract for the erection of two steel and asbestos buildings for the Colorado Midland Co. The locomotive erecting shop will be 45 × 125 ft., and the boiler and blacksmith shop, 60 × 150.

WOODLAND PARK, COLO.—The erection of three cyanide works is projected. John Annisfield and A. B. Marshall, Cleveland, O.; J. Stanley Brown, Washington, and the Treadwell Co., are said to be interested.

MARIOPOL, RUSSIA.—Press reports state that Robert G. Wells, of the Nicopol-Mariopol Mining & Metallurgical Co., Mariopol, is in Pittsburg, Pa., to place orders for machinery for the mills to be erected at this place. It is said that the plans have been prepared by Julian Kennedy, Pittsburg, and the contracts for their construction will be under his direction.

GAS PLANTS.

CINCINNATI, O.—Reports state that the Cincinnati Gas Light & Coke Co. has increased its capital stock from $500,000 to $9,000,000.

GLOUCESTER, N.J.—The city gas works were damaged by fire Dec. 23, at a reported loss of $15,000. Harry C. Chew, Supt.

DURANT, IND. TER.—Reports state that capitalists of Sherman, Tex.; and Gainesville, Tex., will construct an oil plant at this place, to cost about $40,000.

NEW COMPANIES.—Home Gas, Oil & Mining Co., Arcadia, Ind.; $3,000; C. C. Ray, J. F. Tudor, J. M. Driver, Clayton Martz and A. Guy.

Modern American Light Co., Kittery, Me.; $300,000; to manufacture and sell vapor gas; John W. Chase, Pres., Dedham, Mass.

MISCELLANEOUS CONTRACTS.

DAM.—Chelan, Wash.—It is proposed to construct a dam on Lake Chelan, to cost about $1,750. M. M. Kingman is interested.

BONDS.—Chatham, N. B.—Bids are asked until Jan. 2 for the purchase of $10,000 of bonds, according to reports. T. M. Gaynor, Town Clk.

STEEL PLATES.—Mare Island, Cal.—Bids are asked until Jan. 3 for furnishing steel plates, at the navy yard. Edwin Stewart, Paymaster Gen., Navy Dept., Washington.

FIRE ALARM AND ILLUMINATING SYSTEM.—San Jose, Cal.—The city clerk has been directed to ask bids for installing an automatic fire alarm and illuminating system.

DREDGING.—New York N. Y.—The dock department has awarded a contract to the Morris & Cummings Dredging Co., at $4,690, for dredging near Catharine St., East River.

DRY DOCK.—Boston, Mass.—Bids are asked by the navy department until Jan. 31 for the construction of a new dry dock, 700 × 300 ft., of stone and cement. Appropriation, $2,000,000.

DREDGING.—New York, N. Y.—Bids are asked until Jan. 6 for dredging in the East and Harlem rivers, about 100,000 cu. yds. of mud. J. Sargeant Cram, Comr. Docks, Pier A, North River.

NAVAL SUPPLIES.—New York, N. Y.—Bids are asked until Jan. 3 for furnishing bolts and nuts, machinery steel, brass pipe, lumber, etc., at the navy yard. Edwin Stewart, Paymaster Gen., Navy Dept., Washington.

TUNNEL.—Wheeling, W. Va.—Reports state that surveys are being made for a tunnel, 2,400 ft. long, to be driven through Whitehall Hill, near Clayville, on the Wheeling division of the Baltimore & Ohio R. R.

DISTANCE OF 38 MILES, according to reports. Address the department of public works, Ottawa, Ont., or Wm. Henderson, Clk., Victoria, B. C.

BROKEN STONE, ETC.—Tampa Bay, Fla.—Bids are asked until Jan. 16 for furnishing at Mullet Key and Egmont Key, Tampa Bay, broken stone or gravel and random stone, as stated in our advertising columns. Lt.-Col. W. H. H. Benyaurd, U. S. Engr., St. Augustine, Fla.

BRICK, SPECIAL CASTINGS, ETC.—Washington, D. C.—Bids are asked until Jan. 26 for furnishing at shafts of Washington aqueduct tunnel, brick, cement, sand, special castings and bolts, as stated in our advertising columns. Lt.-Col. A. M. Miller, Engr., 2728 Pa. Ave.

BROKEN STONE, STEEL BEAMS, ETC.—New London, Conn.—Bids are asked until Jan. 23 for furnishing at New London and Fisher's Island, N. Y., broken stone, sand, lumber, steel beams, angles, sewer pipe, manhole covers, etc., as stated in our advertising columns. Maj. Smith S. Leach, U. S. Engr., New London.

ORE DOCK.—Two Harbors, Minn.—The Duluth & Iron Range R. R. Co., J. L. Greatsinger, Pres., Duluth, has awarded a contract to the Barnett & Record Co., Minneapolis, for tearing down and rebuilding ore dock No. 1. The new dock will be 49 ft. wide, 50½ ft. high and 1,400 ft. long, and contain 200 ore pockets with a capacity for 40,000 tons; estimated cost, $260,000.

PUBLIC WORKS AND SUPPLIES.—Philadelphia, Pa.—Bids are asked by the department of public works, City Hall, until Jan. 3 for furnishing oils, hardware, brass fittings, cocks and valves, wrought iron pipe, cast iron water pipe and castings, iron and steel, repairs to boilers and roofs, lumber, brick, lime, cement, etc., asphalt paving, curbing, etc. Thos. M. Thompson, Dir.

PNEUMATIC ODORLESS EXCAVATORS.—Puerto Principe, Cuba.—We are informed that Maj. S. T. Armstrong, M. D., Ch. Surgeon, U. S. Army, Puerto Principe, desires prices and full information regarding pneumatic oderless excavating apparatus for the removal of night soil, etc., complete with an air pump, wheeled tank, 300 ft. of coupled hose and harness for two mules, delivered at Nuevitas, Puerto Principe Province, Cuba, via Munsen Line.

DIKES.—Newport, Ky.—Congressman Berry and a committee consisting of ex-Aldermen L. Hehmann, A. J. Mossett, Charles Mauget, Squire Donelan and John Holloran, were to meet Maj. W. H. Bixby, U. S. Engr., Cincinnati, O., Dec. 23, to discuss the bill for the improvement of the Licking River, and providing for the building of dikes, to prevent a flood in Newport at 62 ft. of water. W. L. Glazier, Cy. Engr., writes us that an effort will be made to pass the bill at this session of Congress.

CONTRACT PRICES.

FIRE HOSE.—St. Louis, Mo.—Jas. Richardson, Comr. Supplies, opened bids Dec. 16 for furnishing 4,000 ft. of 2½-in. rubber-lined fire hose, and for rubber suction hose. Contracts have been awarded as follows: Manhattan Rubber Co., 1,000 ft., at 90 cts. a ft.; New York Belting & Packing Co., 1,000 ft., at 85 cts; Day Rubber Co., 1,000 ft., at 90 cts.

BRICK PAVING.—Jacksonville, Fla.—Philip Prioleau, Cy. Engr., writes that the following bids were received Dec. 22, 1898, for paving a portion of Main St. with brick, the work including 21,431 sq. yds. of vitrified brick pavement, together with the furnishing of all labor and material, grading for paving, grading for 20-ft. parkway in center, four lines of stone curbing, etc.: W. M. Lasley, Chattanooga, Tenn., $1.47 a sq. yd. for work complete (awarded contract); S. S. Leonard Co., Jacksonville, $1.49½; J. E. Bryan, Jacksonville, $1.58½; Geo. R. Foster, Jr., Jacksonville, $1.75.

PUMPING ENGINE.—Dunkirk, N. Y.—The following bids were opened by the water commissioners Dec. 20, for a pumping engine:

Bids Received by the Board of Water Commissioners, Dunkirk, N. Y., Dec. 20, 1898, for Pumping Engine.

Bidder.	Type.	Cylinders, ins.	Stroke, ins.	Plung'r ins.	Per min.—Revolutions.	Per min.—Feet.	Capacity Duty, ft-lbs per 1,000,000 gallons.	Weight, lbs. steam.	Weight, lbs.	Price.
For Horizontal Engine.										
Loretz & Son	Cross compound.	28 × 56	42	(2) 16	23	238	7	120,000,000	.....	$17,160
" "	" "	28 × 56	36	(2) 16	34	238	7	120,000,000	.....	15,660
Snow S. Pump Wks.	" "	24 × 48	36	15	34	204	6	120,000,000	270,000	17,400
					17	102	3	110,000,000		
Holly Mfg. Co.	Comp. condens'g	(2) 20 × 36	32	(2) 20	26	135	6	110,000,000	250,000	18,400
Nordberg Mfg. Co.	" "	22 × 40	36	13¼	50	300	6	110,000,000	230,000	16,250
Henry R. Worthington	Triple expansion	(2) 13x21x34	24	(2) 19	37½	150	6	105,000,000	70,000	12,270
					25	100	4	80,000,000		
	Comp. condens'g	(2) 18 × 36	24	(2) 19½	35	140	6	110,000,000	100,000	18,135
					24	95	4	100,000,000		
Barr Pmp'g Eng. Co.	Cross compound.	24 × 48	36	18	30	180	0	110,000,000	240,000	22,000
For Vertical Engine.										
Pioneer Iron Works.	Triplex comp'nd.	26 × (2) 38	42	(3) 18	..	252	7	120,000,000	.....	$23,000
Loretz & Son	Triplex comp'nd.		36	...	..	...	..	120,000,000	.....	20,805
	Triplex comp'nd.	26 × (2) 38	36	(3)*	42	252	7	125,000,000	.....	21,995
	Cross comp. diff.	30 × 48	36	16 × 22	...	...	..	125,000,000	.....	20,800
Snow S. Pump Wks.	Cross compound.	24 × 48	36	16	34	204	6	120,000,000	350,000	23,395
Same pump at half-speed..		...	..	...	17	...	..	110,000,000		23,395
Holly Mfg. Co.	Cross compound.	24 × 46	36	17½	30	180	6	110,000,000	300,000	22,000
Barr Pmp'g Eng. Co.	" "	24 × 48	36	18x25½	30	180	6	110,000,000	300,000	25,500

Remarks.—Loretz & Son: Deduct $1,500 from each bid if foundations are furnished by city; Barr Pumping Engine Co.: Deduct $1,500 from bid if time was extended to July 1, 1899. *Three tubular plungers, 12½×18 ins.

BOILERS AND MACHINERY.—St. Joseph, Mich.—Bids are asked by Capt. J. C. Warren, U. S. Engr., Milwaukee, Wis., until Jan. 20, for furnishing boilers and machinery for six steam fog signals, in sets of two, as stated in our advertising columns.

DOCKS, DREDGING, ETC.—Cleveland, O.—Bids are asked until Jan. 19 for constructing pue and timber docks, protecting the south abutment of Main St. bridge, removing old docks and dredging the Cuyahoga River. Geo. R. Warden, Dir. Pub. Wks.

REVETMENTS AND DREDGING.—Houghton, Mich.—Bids are asked until Jan. 20 for constructing 8,000 ft. of revetments, and until Feb. 3 for 1,750,000 cu. yds. of dredging, according to reports. Maj. Clinton B. Sears, U. S. Engr., Duluth, Minn.

BRICK CHIMNEYS.—Buffalo, N. Y.—The department of public works has received the lowest bids for constructing three brick chimneys, each 8 ft. in diameter and 225 ft. high, at the pumping station, from B. I. Crooker, at $13,380, $13,855 and $12,430, respectively.

WHARVES AND DREDGING.—Honolulu, H. I.—Bids are asked by the navy department, Washington, D. C., until Jan. 20 for the construction of wharves and dredging the slips at the coaling station, according to reports. R. R. Bradford, Ch. of Bureau, Washington.

TELEGRAPH POLES.—Alberin, B. C.—Bids are asked until Jan. 10 for furnishing telegraph poles for a line to be constructed between Alberin and Cape Beale, a distance of 38 miles, according to reports. Address the department of public works, Ottawa, Ont., or Wm. Henderson, Clk., Victoria, B. C.

REVETMENT WORK.—Duluth, Minn.—Maj. Clinton B. Sears, opened the following bids Dec. 20, 1898, for revetment work, Portage Lake Ship Canals, Mich., as advertised in Engineering News:

Bidder.	Completed work, per lin. ft.—Revetment—Special Pile, 8,000 ft.	Completed work, per lin. ft.—Revetment—Protect'n pile, 230 ft.	Repair work, etc., (Cut 1), 17 M.ft., per M.ft. work, 300 ft.	Total.
Fitzgerald & Norris[1]	$6.81	$9.37	$4.10	$50.00 $58,715
Edward Gillen[2]	10.25	7.16	13.16	58.00 88,581
Powell & Mitchell[3]	7.58	10.50	4.00	55.00 65,190
Frank Campbell[1]	8.00	10.20	4.90	57.00 68,785
John M. Borgman[4]	8.80	12.30	6.70	94.30 76,842
Frederick Davis[1]	7.68	10.33	3.91	46.73 65,783
Frank P. Tims[5]	7.00	10.00	4.00	50.00 60,350

[1]Duluth. [2]Racine, Wis. [3]Marquette, Mich. [4]Kewanee, Wis. [5]West Duluth.

BRICK PAVING.—Meadville, Pa.—D. T. McKay, Jr., Cy. Clk., writes us that the contract for 3,120 sq. yds. of brick paving on concrete foundation in Terrace St., as advertised in Engineering News, has been awarded to Ross & Robinson, Meadville, at $1.24 a sq. yd. for Brady Run repressed brick. The bids were opened Dec. 16 and 10 dif-

ferent makes of brick were submitted. The bidders included Thomas McGuigan, Meadville; James McAfee & Co., Allegheny; Peter Schenck, Butler, Pa.

WATER-WORKS SUPPLIES.—Honolulu, H.I.—Contracts were awarded Nov. 30 as follows: Crane Co., 12 and 8-in. water pipe, $28.75 a ton; pig lead, $3.35 per 100 lbs.; connections and fittings, $54 a ton; packing yarn, 3 cts. a lb.; 8-in. gate valves, $16; 12-in. gate valves, $36.

MAIN SEWER.—Newburgh, N. Y.—The following bids were opened Dec. 19, for constructing the 1st St. main sewer, as advertised in Engineering News:

BIDS RECEIVED AT NEWBURGH, N. Y., DEC. 19, 1898, FOR CONSTRUCTING MAIN SEWER.

Bidder.	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.	No. 7.	No. 8.	No. 9.	No. 10.	No. 11.	No. 12.	No. 13.	No. 14.	54-in. tunnel sewer Forms A.	B.	C.
	Price, a lin. ft.								A cu. yd.	Each			Lin. ft.	Per M.	Price a lin. ft.		
Mack Paving Co.	$4.95	$9.45	$6.95	$7.95	$6.95	$6.45	$5.75	$1.75	$2.95	$2.95	$95.00	$75.00	$5.75	$27.50	$8.95	$14.95	$14.95
M. J. Curley	7.00	8.50	9.00	9.00	9.00	8.00	6.00	2.00	3.00	4.00	60.00	60.00	3.00	40.00	22.00	22.00	22.00
John Sutcliffe	9.00	9.90	11.50	13.00	12.00	9.00	7.50	2.25	2.50	6.00	100.00	75.00	12.00	25.00	11.00	15.25	13.00
John A. Doolittle & Co.	7.00	9.00	7.50	9.40	7.90	6.00	5.00	2.30	2.25	6.00	55.00	60.00	3.00	50.00	23.50	26.00	30.00
R. D. Maynard	10.00	9.79	8.00	9.72	9.72	7.50	6.32	2.50	2.50	6.00	111.00	75.00	5.00	25.00	15.90	17.32	20.32
H. E. Wieber & Co.	20.00	10.12	9.50	11.00	10.00	9.40	6.59	2.37	5.50	10.00	55.00	65.00	3.50	30.00	13.50	15.50	11.50
Farrell & Hopper	9.00	10.00	6.25	6.25	6.25	5.50	4.75	2.25	2.50	6.50	100.00	40.00	6.50	45.00	25.00	28.00	32.00
M. J. Dwyer and W. Sager	6.32	9.65	7.60	8.61	7.93	6.41	4.48	2.14	1.49	4.00	73.00	51.00	2.43	24.00	8.50	14.46	12.25
Troy Public Works Co.	8.20	8.20	8.20	8.20	8.20	6.50	3.25	2.00	5.40	40.00	50.00	5.00	25.00	14.50	18.50	15.50	
W. J. Flanagan	6.00	11.25	12.00	10.50	8.50	8.00	7.00	3.50	2.25	5.00	50.00	80.00	7.00	50.00	16.35	16.35	16.35
E. R. Pateson Construction Co.	4.00	8.25	8.50	9.00	8.75	7.35	5.55	2.00	1.95	5.00	40.00	60.00	3.00	35.00	17.00	20.00	20.00
T. Henry Dumary	10.00	6.75	9.37	9.94	9.37	7.87	6.65	2.10	1.50	6.00	150.00	75.00	3.25	34.00	10.50	20.00	27.50
E. M. Haines & Co.	8.00	7.54	12.00	14.25	11.90	9.59	8.40	1.99	3.50	6.00	89.00	65.00	3.55	25.00	17.91	17.91	17.91
Callery & Murphy	11.50	9.00	9.20	9.20	9.20	6.55	5.45	2.50	1.45	5.00	100.00	60.00	2.50	30.00	13.50	17.00	14.75
E. Brown Baker	5.00	8.50	8.00	9.50	8.50	7.00	6.00	3.00	3.00	6.00	80.00	60.00	5.00	25.00	12.00	15.00	18.00
Frank Pidgeon	20.00	15.00	16.66	22.25	23.10	11.88	9.30	3.87	2.50	6.00	90.00	60.00	15.00	25.00	20.00	26.00	30.00
J. D. Wilson	9.50	10.50	12.00	18.00	14.50	11.00	9.50	3.25	2.30	4.75	98.00	68.00	3.00	35.00	15.00	16.50	17.00

The estimated quantities are as follows: No. 1—About 30 ft. timber trunk sewer, 4 × 4 ft., at Hudson River; No. 2—About 860 ft. cast-iron pipe sewer, 42-in., with average depth of about 8 ft.; No. 3—About 320 ft. brick sewer with invert blocks, 54 ins. diameter, and average depth of 12 to 20 ft.; No. 4—About 500 ft. 54-in. brick sewer with invert blocks and average depth of 20 to 23 ft.; No. 5—About 110 ft. of 54-in. brick sewer with invert blocks and average depth of 15 to 20 ft.; No. 6—About 250 ft. of 48-in. brick sewer with invert blocks and average depth of about 13 ft.; No. 7—About 250 ft. of 36-in. brick sewer with invert blocks and average depth of 13 ft.; No. 8—about 13 ft.; No. 7—About 250 ft. of 36-in. brick sewer depth of about 9 ft.; No. 9—About 2,750 cu. yds. rock excavation in trench, if made open; No. 10—About 150 cu. yds. concrete with American cement; No. 11—About 8 manholes built with brick; No. 12—About 3 manholes built with special castings; No. 13—About 120 ft. of sewer to connect Chambers, Lander, Johnston, and Dubois St. sewers with main sewer; No. 14—About 1,000 ft. B.M. of timber grillage in place.

INDUSTRIAL NOTES.

THE MONASH WATER HEATER CO., Pittsburg, has leased the 4-story building, 306 Wood St., for its new factory.

THE RITER-CONLEY MFG. CO., Pittsburg, has a contract for cyanide tanks, to cost $30,000, for the Gold Hill Mining Co., Johannesburg, South Africa.

THE Q. & W. TIE PLATE, illustrated in our issue of Dec. 15, has been declared in interference in the patent office with a plate known as the Glendon Fiange tie-plate, patented by Wm. Goldie, of Dilworth, Porter & Co., Sept. 6, 1898, Patent No. 610,179.

THE CRUMLISH FORGE CO., 18 and 20 Elk St., Buffalo, N. Y., announces that the increasing demand for its forges has necessitated the removal of its shops to the above address. The company was formerly located at 80 Virginia St.

THE WESTINGHOUSE ELECTRIC & MFG. CO., Pittsburg, is said to have a contract from the Kings County Electric Light Co., Brooklyn, for two 3,000 K-W. generators, which will produce about 4,000 HP. each, and reported as to cost $80,000 to $85,000.

THE F. W. EMERSON MFG. CO., Rochester, N. Y., informs us that there were about 50 adjustable drafting tables in the large shop just now in use in the University of California. These tables are now in use in many drafting rooms, and are said to give excellent satisfaction.

THE NEW YORK & OHIO CO., Warren, O., manufacturer of the Packard incandescent lamps and transformers, received a contract Dec. 22 for 15,000 incandescent lamps of from 8 to 100 c. p. from the Bangkok Electric Light Syndicate, Bangkok, Siam, which has a 20-years' contract to light the king's palace. The order is for one year's supply.

THE ERIE CAR CO., Erie, Pa., reports that it has so many orders on hand that it has been obliged to enlarge the plant. The company has an order for 400 gondola cars for the Pennsylvania R. R., and another order for 300 gondola cars for the Pennsylvania Lines West of Pittsburg. The cars are to be of 80,000 lbs. capacity each. Mr. William H. Hamilton is the President of the company.

THE CARNEGIE STEEL CO., Pittsburg, is reported in local papers to have purchased 35 acres west of Homestead upon which will be erected a 250 × 1,500-ft. shop for the manufacture of flat and hopper-bottom freight cars, similar to those now made by the Schoen Pressed Steel Co., of Allegheny. It is said that the new plant will have a capacity of 40 cars a day, in addition to a forge for the manufacture of car axles.

THE THOMSON METER CO., 79 Washington St., Brooklyn, states that it recently received from a large city, a 6-in. water meter, No. 44,368, for repairs. On examination it was found that this meter was sold Oct. 17, 1893, since which time it has registered 99,089,870 cu. ft., or 740,924,025 gallons, of water, and it has never been repaired before. The cost of repairs necessary to put it in as good shape as new was less than $28.

THE PENNSYLVANIA & MARYLAND STEEL CO., is announced in press despatches to have contracts from the Russian Government for 80,000 tons of steel rails for the Eastern Chinese Railway, and from the government of Victoria, Australia, for 35,000 tons. One cargo of rails has already been sent to the latter country. It is stated that each contract was secured because the American bidder named a lower price than any competitor.

THE ERIE GAS ENGINE CO., Erie, Pa., is now installing a 200-HP. gas engine in the plant of the McCoy Glass Co., Kane, Pa. This is claimed to be the largest gas engine ever built in the United States. The company has, among other orders on hand, one for a 100-HP. gas engine for the Grand Driller Co., New Kensington, Pa., and an order for seven 50-HP. gas engines for use in the natural gas district. Mr. F. F. Curtze is the Secretary of the company.

THE LOMBARD WATER WHEEL GOVERNOR CO., 61 Hampshire St., Boston, reports that the demand for its governors is constantly on the increase. Last month orders were received for upwards of 20 governors to regulate 41 water wheels, which will develop 15,750 HP. More than half of this machinery will be used in electric stations, principally in power transmission plants, and electric railway stations, the balance being in textile and other manufacturing plants driven by water power.

THE LAIDLAW-DUNN-GORDON CO., Cincinnati, has just shipped to Shanghai, China, four carloads of machinery, consisting of two cross-compound condensing pumping engines, with condensers, boilers and other equipments. It is said that the machinery goes to New York and from there direct through the Suez Canal. The Shanghai Inland Water Co. secured the concession for the water-works, and will also take an engineer from Cincinnati to put up the plant and operate it under contract for one year or 18 months.

THE RUBBER GOODS MFG. CO. is announced in press reports as about to secure a charter at Trenton, N. J., with a capital stock of $30,000,000. Mr. Chas. R. Flint, who organized the United States Rubber Co., which makes boots and shoes, is conducting the preliminary negotiations for the new company. It is claimed that these two companies will control five-eighths of the annual world's production of crude rubber. Among the companies mentioned as included in the new concern are the Boston Belting Co., New York Belting & Packing Co., B. F. Goodrich, Akron, Ohio; New York Mechanical Rubber Co., Cleveland Rubber Co., New York Gutta Percha & Rubber Co., New York Rubber Co., Stoughton Rubber Co., Stoughton, Mass.; Hartford Rubber Co., and Morgan & Wright, Chicago.

THE BALL ENGINE CO., Erie, Pa., reports a good business in Ball engines, having a number of government orders on hand, among them the following: A 300-HP. vertical, double Ball engine, direct-connected to a Siemens-Halske dynamo, for use New York Navy Yard; two 175-HP. double Ball engines, direct-connected to Siemens-Halske dynamos, for the Norfolk Navy Yard, and a 175-HP. double Ball engine, direct-connected to a General Electric dynamo, for the naval station on Puget Sound, at Bremerton, Wash. The company also has orders for a 250-HP. engine and a 275-HP. engine to be direct-connected to Western Electric dynamos, by means of the Arnold system of connecting, for the Garrett Building, Chicago; also orders for three 250-HP. cross-compound engines, to be direct-connected to Western Electric dynamos, for the Great Northern Hotel, Chicago. The officers of the company are: Pres. and Mgr., Jas. McBrier; Vice-Pres., D. N. McBrier, and Secy. and Treas., H. L. McBrier.

THE PLAYFORD STOKER CO., Cleveland, O., received the following orders for stokers on Dec. 19: From the Apollo Iron & Steel Co., Pittsburg, 24 stokers, to be attached to 24 250-HP. Cahall vertical water-tube boilers at Vandergrift, Pa., where the former company has just completed installing six stokers, and for which it also has six more under construction; from the Heine Safety Boiler Co., Pittsburg, one stoker for a 200-HP. water-tube boiler, for the H. J. Heintz Co., Allegheny, Pa., and from W. F. Patterson, Pittsburg, one stoker to be fitted to a 250-HP. Erie City water-tube boiler, for the Howard St. pumping station of the Allegheny, Pa., water-works. The Playford Co. is also installing eight stokers to 300 HP. boilers for the National Tube Works, McKeesport, Pa.; three to 250-HP. boilers for the Crystal Ice Co., Allegheny, Pa., and three to 250-HP. Babcock & Wilcox boilers in the electric light plant, Allegheny. The company, since Sept. 1, has had orders for 58 stokers, of which all but one were 250 HP. or over. The exception is noted above.

NEW COMPANIES.—American Central Contracting Co., 127 Market St., Camden, N. J.; $100,000; to do general contracting; John C. Calhoun, 617 West End Ave.; James McNaught, Syndicate Bldg., New York; John W. Gephart, Bellefonte, Pa.; Samuel P. Langdon, 315 Drexel Bldg., Philadelphia, Pa.; Norman Grey, Woodbury, N. J.

Paragon Fan & Motor Co., New York; $2,500; to manufacture electric fan motors; James P. Williams, of 39 Cortlandt St., New York, and two others.

Yaryan Hot Water Distributing Co., Chicago, Ill.; $200,000; to operate hot water plants; H. T. Yaryan, H. C. Adams, T. P. Keater.

Metropolitan Water Filtering Co., New Jersey Guarantee & Trust Co. Bldg., Camden, N. J.; $2,000,000; Leander P. Randall, Edward P. Evans, Howard H. Sypher and Christian Pflaum, Jr., of Camden.

Mexican Land & Colonization Co., New Jersey Registration & Trust Co. Bldg., Orange, N. J.; $100,000; to deal in rubber, fruit, etc., construct bridges, canals, etc.; F. M. Crawford, S. M. Biddison, J. W. Le Rieur and John W. Burns, 67 Clark St., Chicago, Ill.

Moritz-Borwick Construction Co., St. Louis, Mo.; $10,000; Olive J. Borwick, Ellwin P. Moritz and M. W. Hoff.

Franklin H. Bullis Mfg. Co., New York; $100,000, commencing with $500; to manufacture and sell snow melting machines; Franklin H. Bullis, V. L. Haines, Frank Kugler, Brooklyn, N. Y.

Philadelphia & Baltimore Ice Cold Storage & Produce Co., 127 Market St., Camden, N. J.; $100,000; R. H. Parker, Joseph H. Young, Thomas Williams, James G. Pratt and James W. Gill, of Philadelphia, Pa.; Alexander Duer, Camden.

Pacific Coast Coal Co., Philadelphia, Pa.; $2,500,000, with $2,500 paid in; to own and lease lands; to mine and sell coal; to build and operate railroads; W. H. Ingham, F. T. Patterson, A. L. Green, F. B. Lee, W. D. Marks, Philadelphia.

Harbor Water Front Co., Portsmouth, Va.; $10,000; to buy and develop real estate and maintain factories, warehouses and wharves; to do general storage and wharfage business and to furnish light, water and sewerage; O. F. Byrd, L. C. W. Page, I. L. Watson, T. J. Wool, F. D. Gill, A. A. Blisoly, I. S. Crawford

Speed Elevator Co., Louisville, Ky.; $20,000; to conduct an elevator and storage business, and to buy and sell coal; J. S. Speed, W. S. Speed, F. M. Locket, Louisville.

Randsburg Reduction Works, Los Angeles, Cal.; $50,000, with $23,000 paid in; Austin Granville, Edward Osborn, George R. Wilton, E. W. Gilmore, John A. Fairchild, Chas. St. Morls and James McLachlan.

Garretson Engine Co., Buffalo, N. Y.; $5,000, commencing with $3,000; to deal in engines and machinery; Albert F. Garretson, 786 Ellicott Sq.; N. H. Wolcott, R. L. Cox, all of Buffalo.

Dennison Motor Carriage Co., 1 Montgomery St., Jersey City, N. J.; $100,000; to manufacture engines and electrical and other motors; Geo. L. Record and Ernest Merrick, 1 Montgomery St., Jersey City; J. F. Dennison, New Haven, Conn.

Knoble Filter Co., Chicago, Ill.; $10,000; to manufacture filters; T. J. Knoble, M. E. Knoble, J. A. O'Donnell.

Liquid Pressed Casting Co., Chicago, Ill.; $60,000; to manufacture metal castings; F. G. Hewser, T. B. McGregor, R. I. Terry.

American Chemical Co., St. Louis, Mo.; $100,000; John E. Keller, Frank C. Lewis and Harmon J. Bliss.

Finlayson Steam Generator Co., Detroit, Mich.; $25,000, with $16,800 paid in; to manufacture steam generators, heaters and engines; A. W. Finlayson, J. L. Hacket, E. Lutz, C. A. Howell, Detroit.

Missouri Wrecking Co., St. Louis, Mo.; $4,000; G. M. Cherry, J. W. Drabelle and Robert A. Cherry.

Western Railway Equipment Co., East St. Louis, Ill.; $300,000, commencing with $100,000; to manufacture railway equipments; E. S. Barreiras, R. Payne, J. D. Housman, Jr., G. W. Taussig, H. P. Taussig, H. L. Magee.

Manhattan Dry-Dock Construction Co., New York; $5,000,000, commencing with $100; to build, repair, sell and operate ships, vessels, etc.; C. F. Peck, A. McDuffie, W. A. Davis, G. H. Smith, W. H. Brower, New York.

Kitson Lighting & Heating Co. of Japan and China, Charleston, W. Va.; $1,000,000, commencing with $100; to buy, sell and manufacture apparatus or materials for the production of heat, light or power; A. D. MacCorkle, J. W. Malcom, J. E. Chilton, J. E. Scaggs, W. E. Chilton, Charleston.

Norwich Construction Co., Norwich, Conn.; $1,000, commencing with $200; to encourage new industries in Norwich; H. H. Osgood, C. P. Cogswell, C. D. Noyes, C. W. Gale, Z. P. Learned, A. Reid, J. C. Averill, J. T. Desmond, Norwich.

Western Iron Works, Los Angeles, Cal.; $50,000; Frank S. Livingston, Arthur H. Ruggles, Frank P. Snow, Wm. W. Wood, Cassius Smith.

Lafayette Telephone Co., Mexico, Mo.; $12,500; D. P. Moore, M. B. Moore, E. D. Graham, E. C. Kennan, P. M. Kennan.

Electrical Construction Co., Waco, Tex.; $35,000; to construct, maintain and operate telephone lines; E. Rotan, W. W. Seley, S. Sawyer, E. N. Stephenson, J. B. Earle, J. E. Boynton, C. C. Barrett.

Hygienic Filter & Refrigerating Co., Chicago, Ill.; $25,000; general manufacturing; W. S. Kammerer, J. H. McDonnell, J. J. Purcell.

Pelley River Mining Co., 259 Washington St., Jersey City, N. J.; $125,000; to mine silver, gold and copper; Roscoe M. Wiers, Ralph M. Jacoby, John M. Enright, Jersey City.

Thompson & Moab Telephone Co., Salt Lake City, Utah; $1,400; to build and operate a telephone line between Thompson and Moab, Utah; Arthur A. Taylor, Pres.; J. C. Taylor, Vice-Pres.; Robert James Thompson, Treas.; Chas. Wilson, Secy.

Eagle Iron Co., Attalla, Tenn.; $20,000; to manufacture iron, etc.; company has secured and will put in blast the furnace at Attalla; L. S. Colyar, George H. Webb and James H. Barr, all of Chattanooga, Tenn.

South African General Electric Co., Schenectady, N. Y.; $50,000; to deal in electrical apparatuses and construct works and plants involving their use in the United States, South Africa, and other foreign countries; S. D. Greene, Henry W. Darling, D. Mazent, J. R. Lovejoy and M. F. Westover, of Schenectady.

Massies Mills Telephone Co., Massies Mills, Va.; $2,000; telephone and telegraph business; W. D. Meeks, James Dickie, J. C. Bentz, M. B. Hughes, E. P. Parsons, W. H. Miller, Massies Mills; A. G. Bryant, W. M. Boyd, Bryant; R. K. Anderson, Roseland, Va.

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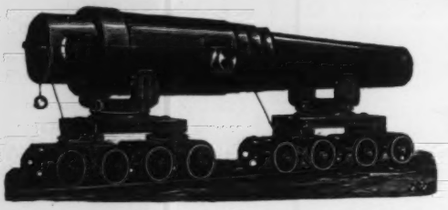

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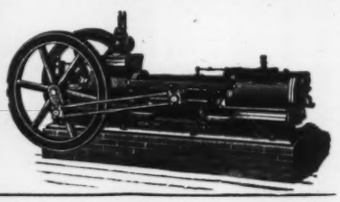

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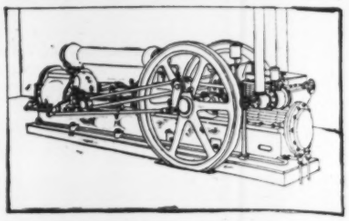

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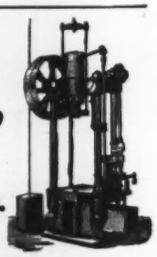

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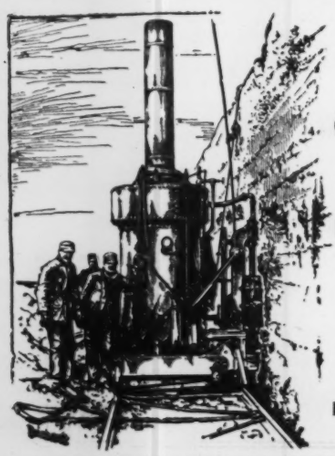

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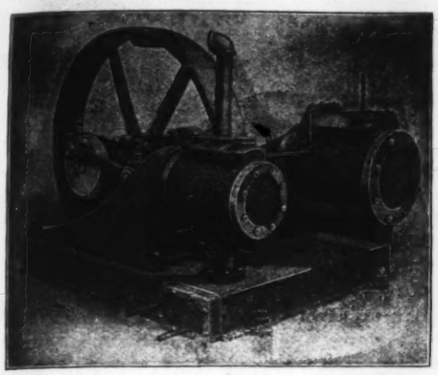

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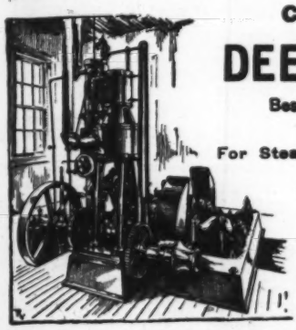

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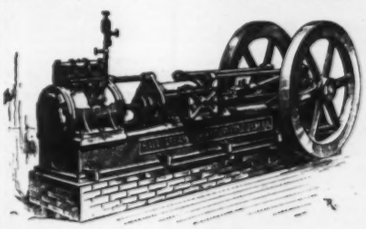

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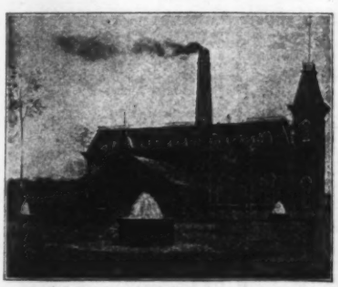

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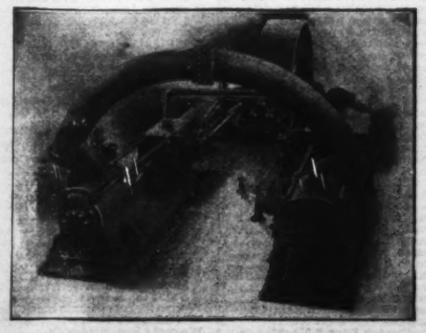

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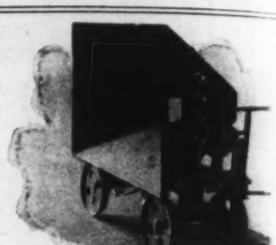

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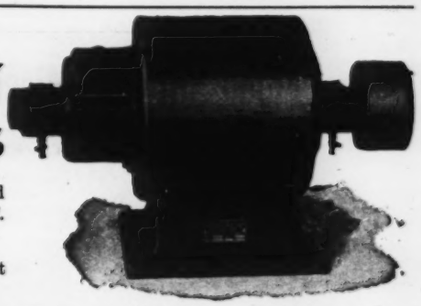

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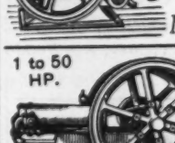

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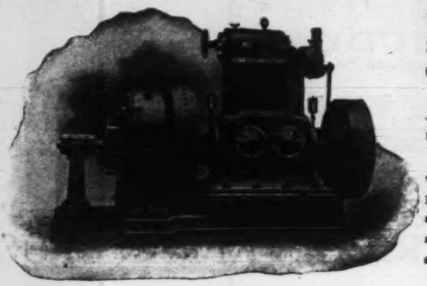

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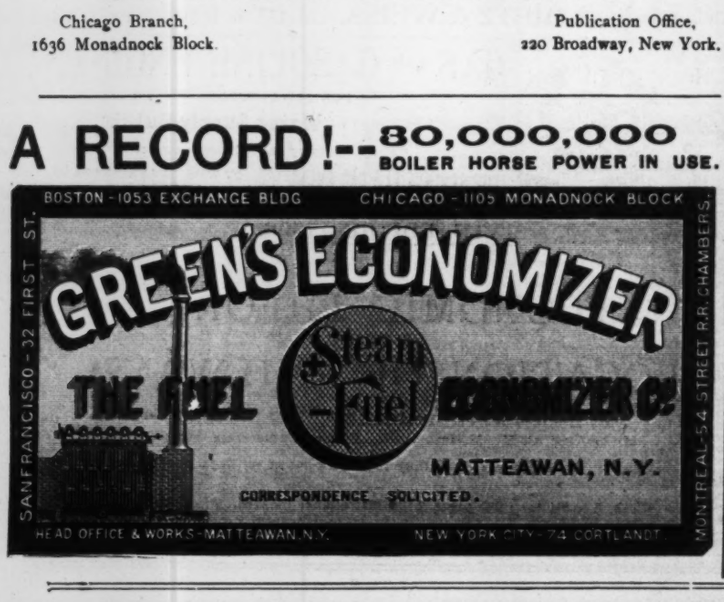

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NOTICE.—This new Advertisers' Classified Directory contains about 410 headings, against 181 in the old directory. More than double the space is required for the new directory and we cannot increase this more at present. We ask each advertiser however to see if his name is placed under the correct headings and to notify us of any mistakes.

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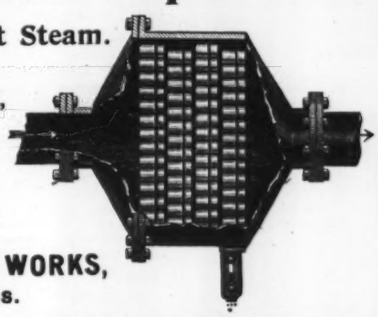

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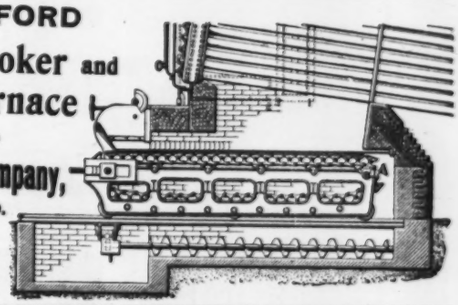

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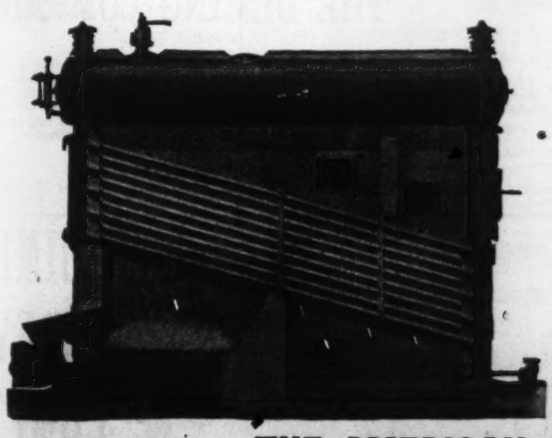

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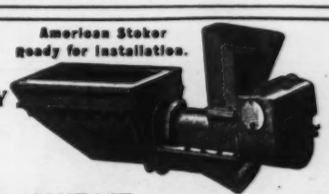

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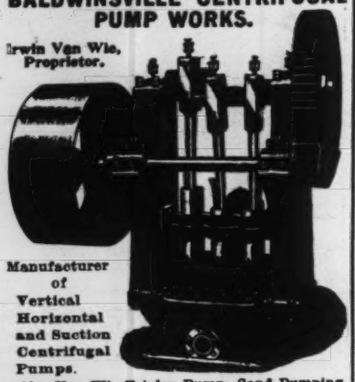

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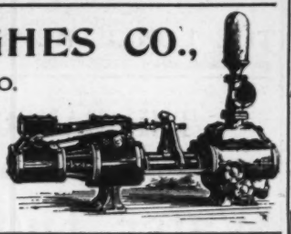

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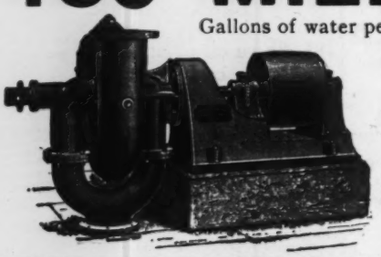

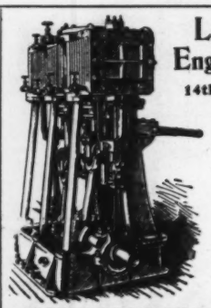

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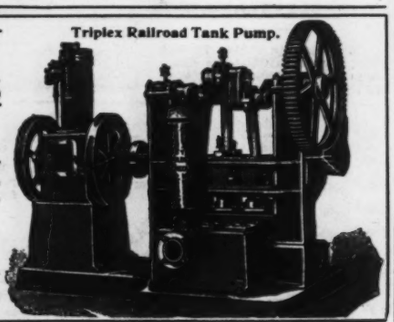

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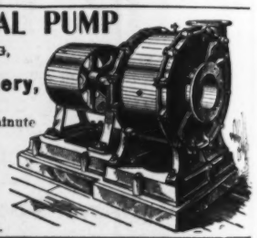

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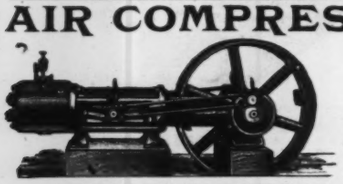

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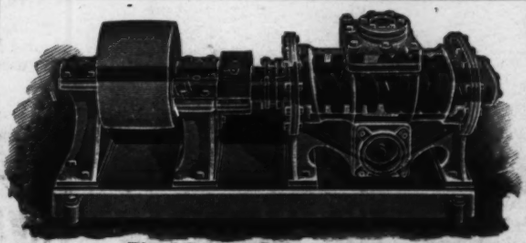

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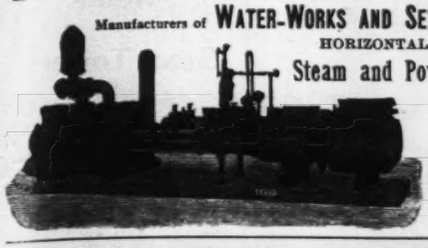

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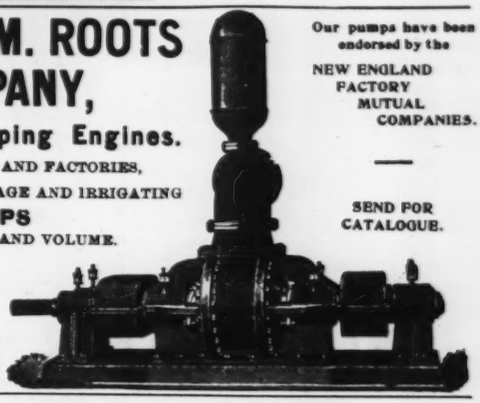

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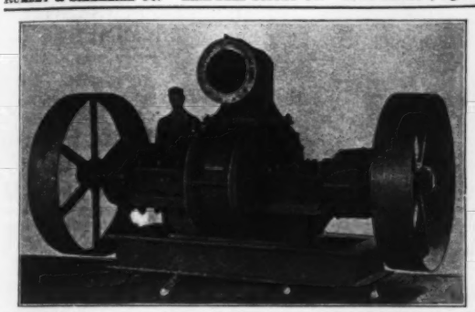

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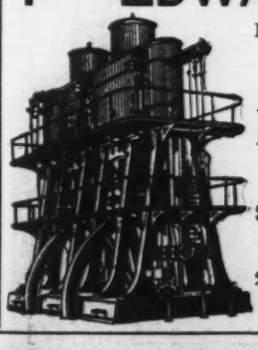

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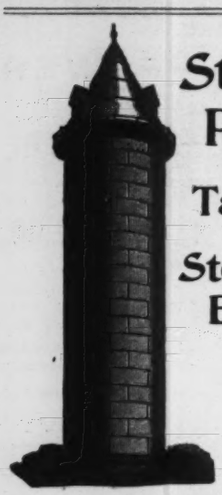

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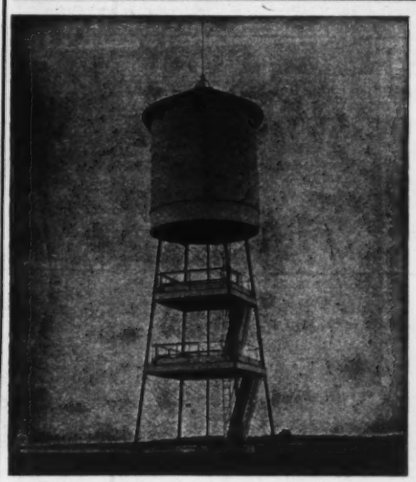

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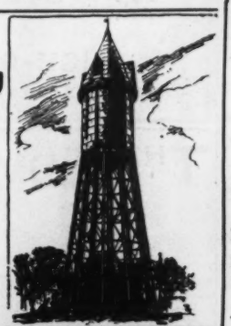

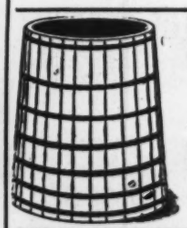

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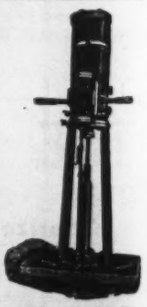

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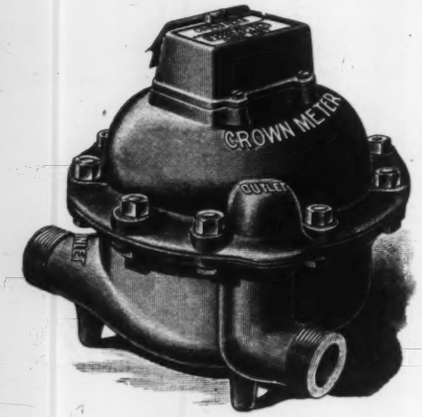

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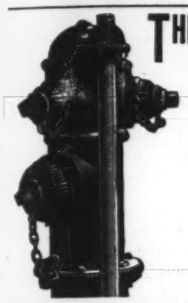

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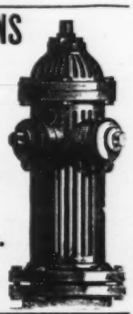

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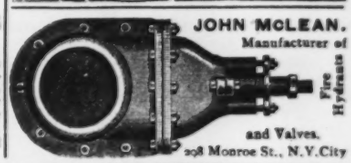

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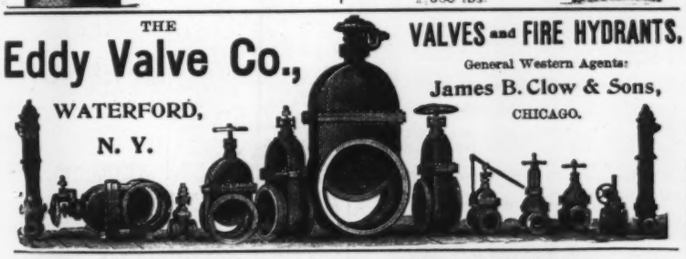

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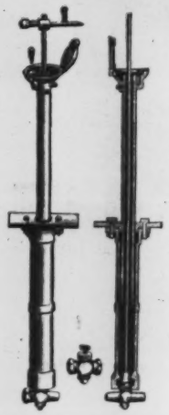

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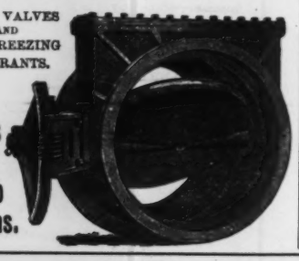

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Continued from Page 8

ADVERTISERS' CLASSIFIED DIRECTORY.

Continued on Page 24.

NOTICE.—This new Advertisers' Classified Directory contains about 410 headings, against 181 in the old directory. More than double the space is required for the new directory and we cannot increase this more at present. We ask each advertiser however to see if his name is placed under the correct headings and to notify us of any mistakes.

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Osgood Dredge Co., 27 State st, Albany, N Y
Vulcan Iron Works Co. Toledo Ohio

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Addyston Pipe & Steel Co., Cincinnati, Ohio
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Builders' Iron Foundry, Providence, R I
Coldwell-Wilcox Co., Newburgh, N Y
Cornell, J. S. & J. M., 26th st & 11th ave, N Y
Donaldson Iron Co., Emaus, Pa
Drummond, M. J., & Co., 192 Broadway, New York
Fox & Engle, 253 Broadway, N Y
McNeil Pipe & Foundry Co., Burlington, N J
Millar, Chas., & Son, Genesee st, Utica, N Y
National Foundry & Pipe Works, Ltd., Scottsdale, Pa
Ohio Pipe Co., Columbus, Ohio
Poole, Robert, & Son Co., Baltimore, Md
Reading Foundry Co., Ltd., Reading, Pa
Variety Iron Works, Cleveland, O
Warren Foundry & Machine Co., 140 Broadway, N Y
Weaver, R. T., Co., 2925 N. Broad st, Philadelphia, Pa
(see also Brass; and Street and Sewer Castings.)

Cattle Guards.
Q & C Co., Western Union bldg, Chicago, Ill
Railroad Supply Co., Chicago, Ill

Caulking Yarn and Tools.
Ogden, J. Edward, 149 Cedar st. New York

Ceilings (Metal).
Kinnear & Gager Co., Cleveland, Ohio
(see also Fire Proofing.)

Cement (Portland).
Alpha Portland Cement Co., 257 The Bourse, Phila
Alsen's Portland Cement Works, 143 Liberty st, N Y
Atlas Cement Co., 143 Liberty st, New York
Bonneville Cement Co., 261 Broadway, New York
Buckeye Portland Cement Co., Bellefontaine, Ohio
Commercial Wood & Cement Co., 156 Fifth ave, N Y
Commercial Wood & Cement Co., Girard bldg, Phila
Empire Portland Cement Co., Warners, N Y
Glens Falls Portland Cement Co., Glens Falls, N Y
Hall, Chas. W., 26 Cortlandt st, New York
Johnson & Wilson, 45 Broadway, New York
Kelley Island Lime & Transport. Co., Cleveland
Lawrence Cement Co. of Penn., Siegfried, Pa
Lehigh Portland Cement Co., Allentown, Pa
Lesley & Trinkle, 22 S. 15th st, Philadelphia, Pa
Newcomer, Geo. M., 66 Maiden Lane, New York
Thorn Cement Co., 113 Church st, Buffalo, N Y

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Union Akron Cement Co., 141 Erie st, Buffalo, N Y
Western Cement Co., Louisville Ky

Cement (Sand).
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Vulcan Iron Works Co., Toledo, O
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(see Coal and Ore Handling Machinery.)

Coffer Dams and Caissons
Elmira Bridge Co., Elmira, N Y

Colleges (Engineering). (see p. 5).

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Gates Iron Works, 650 Elston ave, Chicago, Ill

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Deane Steam Pump Co., Holyoke, Mass
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Dutton Pneumatic Lock & Eng. Co., 11 B'way, N Y
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Jones, Benj. F., 127 E. 125th st, New York
Kinser, T. W., & Sons, 610 Tremont Bldg., Boston, Mass
Michigan Pipe Co., Bay City, Mich
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McMullen, Arthur, & Co., 32 Cedar st, New York
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Cooling Towers.
Worthington, Henry R., 96 Liberty st, New York

Copper.
Bourbon Copper & Brass Works, Cincinnati, Ohio
Merchant & Co. Philadelphia, Pa
Randolph & Clowes, Waterbury, Conn

Corporation Cocks.
Mueller, H., Mfg. Co., Decatur, Ill
Pfeuger & Henger Mfg. Co., St. Louis, Mo

Correspondence Schools (see Schools, correspondence).

Cranes.
Am. Hoist & Derrick Co., St. Paul, Minn
Brown Hoisting & Conveying Mach. Co., Cleveland
Bucyrus Co., S., Milwaukee, Wis
King Bridge Co., Cleveland, Ohio
Marion Steam Shovel Co., Marion, Ohio
Wood, R. D., & Co., Philadelphia, Pa

Creosoting.
Am. Wood Preserving Co., 1015 Filbert st, Phila, Pa
Carbolineum Wood Preserving Co., Nashville, Tenn
Eppinger & Russell Co., 66 Broad st, New York
International Creosoting & Con. Co., Galveston, Tex
Michigan Pipe Co., Bay City, Mich
Norfolk Creosoting Co., Norfolk, Va
Old Dominion Creosoting Works, Norfolk, Va
Vanderbilt & Hopkins, 126 Liberty st, New York
West Pascagoula (Miss.) Creosoting Works

Crucibles.
Dixon, Jos., Crucible Co., Jersey City, N. J

Derricks and Derrick Fittings.
American Hoist & Derrick Co., St. Paul, Minn
Byers, John F., Machine Co., Ravenna, Ohio
Carlin's, Thos., Sons, Allegheny, Pa
Contractors' Plant & Mfg. Co., 126 Erie st, Buffalo, N Y
Dobbie Foundry & Machine Co., Niagara Falls, N Y
Ellicott Machine Co., Baltimore, Md
Lambert Hoisting Engine Co., Newark, N J

Diamond Drills.
Sullivan Machinery Co., 60 N. Clinton st., Chicago

Differential Hoists.
Boston & Lockport Block Co., Boston, Mass
Burr Mfg. Co., Cleveland, O

Ditching Machinery.
Austin, F. C., Mfg. Co., Harvey, Ill
Beatty, M., & Sons, Welland, Ont
Bucyrus Co., S. Milwaukee, Wis
Marion Steam Shovel Co., Marion, Ohio
Osgood Dredge Co., Albany, N Y
San Francisco Bridge Co., San Francisco, Cal; Seattle, Wash.; and 163 World bldg, New York
Souther, John & Co., 13 Post Office Square, Boston
Toledo Foundry & Machine Co., Toledo, O
Vulcan Iron Works, Chicago
Vulcan Iron Works Co., Toledo, O

Diving Apparatus.
Morse, Andrew J., & Son., 140 Congress st, Boston
Schrader's, A., Son, 32 Rose st, New York

Doors and Door Fittings.
Berlin Iron Bridge Co., East Berlin, Conn.
Kinnear & Gager Co., Columbus, Ohio
N. J. Foundry & Machine Co., 26 Cortlandt st, N Y

Drafting Room Furniture.
Emerson, F. W., Mfg. Co., Rochester, N Y

Draftsmen's Supplies.
Aloe, A. S., Co., 517 Olive st, St Louis
Dietzgen, Eugene, Co., 153 Monroe st., Chicago
Frost & Adams Co., 37 Cornhill st, Boston, Mass
Keuffel & Esser Co., 127 Fulton st, New York
Queen & Co., Inc., Philadelphia, Pa
Weber, F. & Co., Philadelphia
(see also Instruments.)

Drain Tile.
Jackson, John H., Albany, N Y
Monmouth Mining & Mfg. Co., Monmouth, Ill
Purington Paving Brick Co., Galesburg, Ill

Dredging and Dredging Machinery.
Babcock-Lary Dredging Co., 29 Broadway, N Y
Beatty, M., & Sons, Welland, Ont
Bowers, A. B., San Francisco, Cal
Bucyrus Co., S. Milwaukee, Wis
Calhoun Excavator Co., Unity bldg, Chicago, Ill
Chaquette Canal & Harbor Ddg. Co., N. Y.
Deming Co., Salem, Ohio
Dredging & Filling Co., 15 Cortlandt st, N Y
Edwards, Jos., & Co., 414 Water st, New York
International Contracting Co., Syracuse, N Y
Lake City Engineering Co., Erie, Pa.
Lawrence Machine Co., Lawrence, Mass
Marion Steam Shovel Co., Marion, Ohio
Morris Machine Works, Baldwinsville, N Y
Mundy, J. S., Newark, N J
N. Y. Dredging Co., World bldg, New York
Osgood Dredge Co., Albany, N Y
Poole, Robert, & Son Co., Baltimore, Md
Ross, P. Sanford, Fuller bldg, Jersey City, N J
San Francisco Bridge Co., San Francisco, Cal
Smith, Theo., & Bro., Jersey City, N J
Toledo Foundry & Machine Co., Toledo, Ohio
Vulcan Iron Works Co., Toledo, Ohio

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Stow Flexible Shaft Co., 26th & Callowhill sts, Phila
Stow Mfg. Co., Binghamton, N Y
(see also Rock Drills.)

Drop Hammers.
Merrill Bros., 467 Kent ave, Brooklyn, N Y

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Dutton Pneumatic Lock & Eng. Co., 11 B'way, N Y

Dryers (Cement).
West Pulverizing Machine Co., 220 Broadway, N Y

Dynamite.
Acme Powder Co., Pittsburg, Pa
Kirk, Arthur, & Son, 910 Duquesne Way, Pittsburg

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Sprague Electric Co., Dept. N, New York
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Brownell, Schmidt & Co., York, Pa
Fuel Economizer Co., Matteawan, N Y
Playford Stoker Co., Cleveland, O
Westinghouse Machine Co., Pittsburg, Pa

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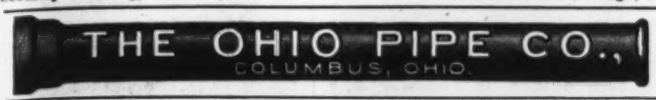

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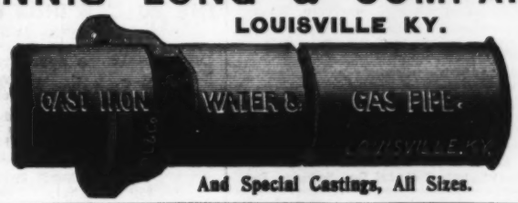
Flange Pipe. 

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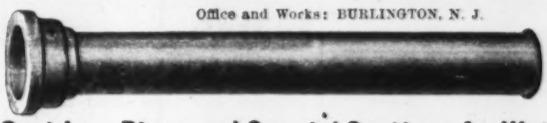

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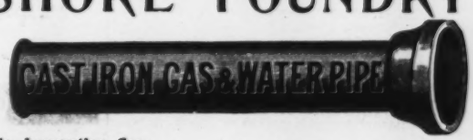

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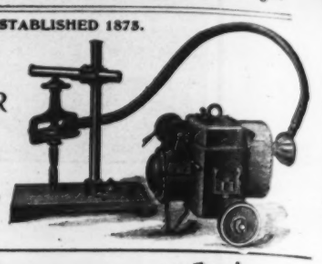

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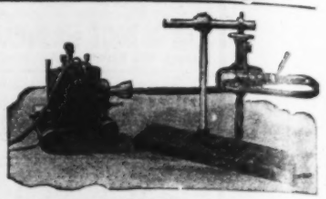

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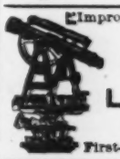
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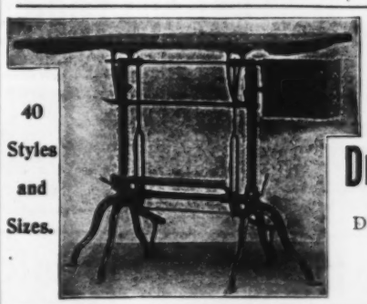
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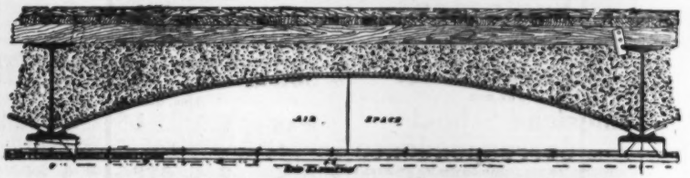

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SANITARY DISTRICT OF CHICAGO.

TO CONTRACTORS:

CHICAGO, Dec. 21, 1898.

Sealed proposals addressed to the Board of Trustees of the Sanitary District of Chicago and indorsed:

"Proposals for erecting the substructure and the superstructure of a railroad bridge crossing the Chicago River near Taylor street, and also a bridge for Taylor street across the same river, all in the city of Chicago," will be received by the Clerk of the said Sanitary District at room 1110 Security building, Chicago, Ill., until 12 m. (standard time) of Monday, the 20th day of February, A. D. 1899, and will be publicly opened by said Board of Trustees at its regular meeting of the Board held that day.

The railroad bridge for which said tenders are invited is a two (2) track structure for the use of the Chicago Terminal Transfer Railroad Company, and the street bridge will be a structure with roadway eighteen (18) feet wide and sidewalks five (5) feet wide each.

The work for which said tenders are invited includes supplying all materials for the substructures and superstructures of said bridges and erecting them completely according to plans furnished by the Sanitary District of Chicago on designs prepared under the Scherzer Rolling Lift Bridge patents and in conformity with specifications furnished by the said district.

The designs for said bridges are owned and controlled by said Sanitary District of Chicago.

Each bid for the railroad bridge must be accompanied by a certified check or cash to the amount of four (4) thousand dollars, and each bid for the street bridge must be accompanied by a certified check or cash to the amount of fifteen (15) hundred dollars.

All certified checks must be drawn on some responsible bank doing business in the city of Chicago and be made payable to the order of the Clerk of the Sanitary District of Chicago. Said amount of four thousand ($4,000) dollars for the railroad bridge will be held by the Sanitary District until all of the bids for said structure have been canvassed and the contract awarded and signed, the return of said check or cash being conditioned upon the appearance within ten (10) days after receiving notice of award to him of the bidder to whom the award of said work shall have been made, with bondsmen, and executing a contract with the Sanitary District for the work so awarded, and giving a bond satisfactory to the Board of Trustees for the fulfillment of the contract, the amount of said bond to be thirty-five thousand ($35,000) dollars.

The amount of fifteen hundred ($1,500) dollars deposited with bid for the street bridge will be held by the Sanitary District until all of the bids for said structure have been canvassed and the contract awarded and signed, the return of said check or cash being conditioned upon the appearance within ten (10) days after receiving notice of award to him of the bidder to whom the award of said work shall have been made, with bondsmen, and executing a contract with the Sanitary District for the work so awarded, and giving a bond satisfactory to the Board of Trustees for the fulfillment of the contract. The amount of said bond to be fifteen thousand ($15,000) dollars.

All bids must be upon blank forms furnished by the Sanitary District.

No bid will be considered unless the party making it shall furnish evidence satisfactory to the Board of Trustees of his experience in this class of work, and his financial ability successfully to prosecute the said contract in case the same shall be awarded to him.

Bidders are required to state in their bids their individual names and places of residence in full.

Designs of bridges may be seen and specifications and plans may be obtained at the office of the Chief Engineer, room 1010 Security building, Chicago, Ill., on or after Jan. 25, 1899.

The said Board of Trustees reserves the right to reject any and all bids.

THE SANITARY DISTRICT OF CHICAGO.
By WILLIAM BOLDENWECK,
President of Its Board of Trustees.
Attest: JOSEPH F. HAAS, Clerk. 52-1t

U. S. ENGINEER OFFICE, Custom House, Charleston, S. C., Dec. 10, 1898.—Sealed proposals for removing old and furnishing and placing new pumping engine on dredge "Charleston," in this harbor, will be received here until 12 o'clock, noon, Jan. 10, 1899, and then opened. Information furnished on application. 50-4t

U. S. ENGINEER OFFICE, Duluth, Minn., Dec. 10, 1898.—Sealed proposals for furnishing 12,000 barrels of PORTLAND CEMENT for the concrete superstructure for piers for Duluth ship canal, will be received here until noon, Jan. 10, 1899, and then publicly opened. Information furnished on application. CLINTON B. SEARS, Major, Engrs. 50-4t

For Other Prososals see Page XXII.

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Sealed proposals will be received by the Council of the Borough of Vailsburgh, at the Borough Hall, Vailsburgh, N. J., at eight-thirty o'clock in the evening of Wednesday, the 11th day of January, 1899, for furnishing the materials for constructing a system of water-works for said Borough.

The materials required will be, approximately, 11,345 lineal feet of six-inch cast-iron pipe, weighing 390 pounds per length of twelve feet.

16,885 lineal feet of four-inch cast-iron pipe, weighing 226 pounds per length of twelve feet.

3,450 lineal feet of eight-inch cast-iron pipe, weighing 555 pounds per length of twelve feet.

14,000 pounds special castings.
45 Valves and valve boxes.
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Also for doing the work of laying said pipes and setting said special castings, valves, valve boxes and hydrants in the streets of the Borough of Vailsburgh.

Separate bids are requested for furnishing cast-iron pipes and special castings; and for furnishing valves, valve boxes and hydrants; and for trenching, back-filling, laying pipes and setting valves, valve boxes and hydrants.

A certified check upon some bank in the State of New Jersey for the sum of Three Hundred Dollars, made to the order of George V. Aschenbach, Treasurer, must accompany each bid, but shall not be sealed up with it.

Plans may be seen and specifications and blank forms for proposals procured at the office of the Clerk of the Borough of Vailsburgh, N. J., or at the office of the Engineer of the Borough, Eugene A. McMurray, 22 Clinton Street, Newark, N. J.

The Council reserves the right to reject any and all bids.

THE MAYOR AND COUNCIL OF THE BOROUGH OF VAILSBURGH. 52-1t

U. S. ENGINEER OFFICE, St. Augustine, Fla., Dec. 26, 1898.—Sealed proposals for furnishing and delivering at Mullet Key and Egmont Key, Tampa Bay, Fla., BROKEN STONE, or GRAVEL, and RANDOM STONE, will be received here until 2 p. m., Jan. 16, 1899, and then publicly opened. Information furnished on application. W. H. H. BENYAURD, Lieut.-Col., Engrs. 52-2t

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Italian labor of all kinds; masons, rockmen, laborers, etc., etc., furnished in any number and on short notice to any part of the country.

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IRON BRIDGES.

ST. THOMAS, ONT., Dec. 19, 1898.

Sealed proposals for the construction of two iron bridges with solid floors, each 120-foot span, to be build across Kettle Creek in the City of St. Thomas, Ontario, will be received by the undersigned until noon on Tuesday, the 24th day of January, 1899.

Forms of tender and particulars may be had on application to the undersigned.

The Committee does not bind itself to accept the lowest or any tender.

JAMES A. BELL,
51-2t City Engineer.

TREASURY DEPARTMENT.—Office Supervising Architect, Washington, D. C., December 20, 1898.—Sealed proposals will be received at this office until 2 o'clock P. M., on the 19th day of January, 1899, and then opened, for the low pressure, return circulation, steam heating and ventilating apparatus for the U. S. Post Office Building at Pottsville, Pa., in accordance with the drawings and specification, copies of which may be had at this office or the office of the Superintendent at Pottsville, Pa. JAMES KNOX TAYLOR, Supervising Architect. 52-2t

PROPOSALS FOR FURNISHING CEMENT.—U. S. Engineer Office, Globe Building, St. Paul, Minn., Dec. 12, 1898.—Sealed proposals for furnishing and delivering American Portland Cement, f. o. b. cars at factory, will be received here until 12 o'clock M., January 12, 1898, and then publicly opened. Information furnished on application. FREDERIC V. ABBOT, Major, Engrs. 50-4t

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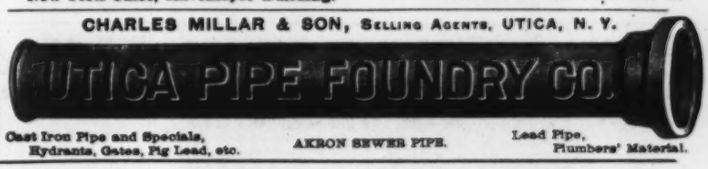

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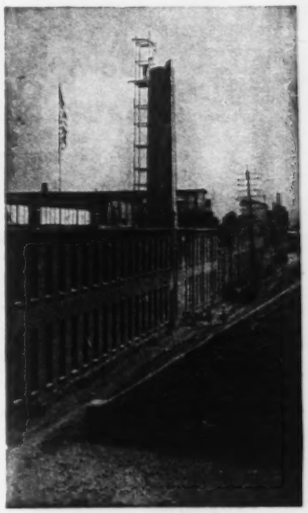

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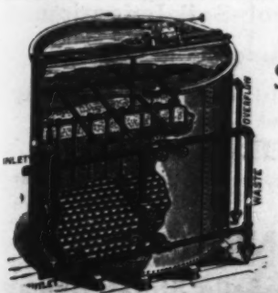
TELEPHONE FRANCHISE OF THE CITY OF DULUTH FOR SALE

DULUTH, MINN., Dec. 1, 1898.

Notice is hereby given that the City of Duluth will receive tenders for the purchase of a telephone franchise in said city, January 16, 1899. The condition of the sale of such franchise to be obtained upon application to the City Clerk of said City. All tenders must be addressed to the Common Council of the City of Duluth and handed to the City Clerk before 7.30 p. m. on said day.

H. W. CHEADLE,
49-6t City Clerk.



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PAVING.

HOUSTON, TEXAS, Dec. 8, 1898.

Sealed proposals, addressed to P. S. Banner, City Secretary, will be received up to 12 o'clock, noon, on Monday, January 9th, 1899, for the repaving of Main Street, between Franklin Avenue and McKinney Avenue, in the City of Houston, Texas, as per plans and specifications on file in the City Engineer's office.

Estimated approximate quantities are:

8,500 cubic yards Excavation.
19,000 square yards Paving.
4,500 lineal feet Stone Curbing.

Full information and conditions governing bids can be obtained on application to City Engineer.

S. H. BRASHEAR, Mayor.
I. AUSTIN MILLER, City Engineer. 50-3t

SEALED PROPOSALS will be received at the office of the Light-House Engineer, Milwaukee, Wis., until 12 o'clock m., January 20, 1899, and then opened, for furnishing the boilers and machinery for six complete steam FOG SIGNALS, in sets of two, delivered at the Light-House Depot, St. Joseph, Mich., in accordance with specifications, copies of which, with blank proposals and other information, may be had upon application to J. G. WARREN, Captain, Corps of Engineers, U. S. A. 52-2t

OFFICE OF WASHINGTON AQUEDUCT, 2728 Pa. Ave., Washington, D. C., Dec. 27, 1898.—Sealed proposals for furnishing and delivering at shafts of Washington Aqueduct Tunnel, brick, cement, sand, special castings and bolts will be received here until 12 m., January 26, 1899, and then publicly opened. Information on application. A. M. MILLER, Lieut-Col., Engrs. 52-4t

U. S. ENGINEER OFFICE, New London, Conn., Dec. 22, 1898.—Sealed proposals for furnishing and delivering at New London, Conn., and Fisher's Island, N. Y., broken stone, sand, lumber, steel beams, angles and bolts, doors and frames, hand-railing, speaking-tubes, sewer pipe, and manhole covers, will be received here until noon, Jan. 23, 1899, and then publicly opened. Information furnished on application. SMITH S. LEACH, Maj., Engrs. 52-4t

BRIDGE.

BINGHAMTON, N. Y.

Notice is hereby given that the City of Binghamton, N. Y., will receive up to 7:30 o'clock p. m., January 17th, 1899, sealed, competitive plans, with approximate estimates of costs, for a bridge across the Susquehanna River at Thompkins Street, in said city. All plans and estimates must be marked "Plans and Approximate Estimates for a Bridge at Thompkins Street, Binghamton, N. Y.," and be addressed to B. W. Mosher, City Clerk. Such plans and estimates upon their receipt will be referred to the Special Committee on Bridges. Said Committee to examine the plans and estimates, and to report to Council the plan best adapted to meet the requirements of the situation. The person or company whose plans shall be selected shall receive therefor the sum of $200, providing he or it shall not be the successful bidder for the construction of said bridge when bids for such construction shall be received, and the work awarded. Data as to requirements for bridge, surroundings, etc., can be obtained by addressing S. E. Monroe, City Engineer, Binghamton, N. Y.

By order of the Common Council.

B. W. MOSHER,
51-2t City Clerk.

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Itinerary of Tourist Agent, 1196 Broadway, New York, or address Geo. W. Boyd, Assistant General Passenger Agent, Philadelphia. 50-7t

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New Terminal Agent.

J. F. Legge has been appointed Terminal Agent of the Baltimore & Ohio Railroad at Washington, D. C., in charge of passenger and freight stations, and will assume the duties of that position on January 1. Mr. Legge is an old B. & O. man, having been Superintendent of the 4th and 5th Divisions in years gone by, and connected with the road in various other capacities. He was in charge of the Washington terminals from 1884 to 1887.

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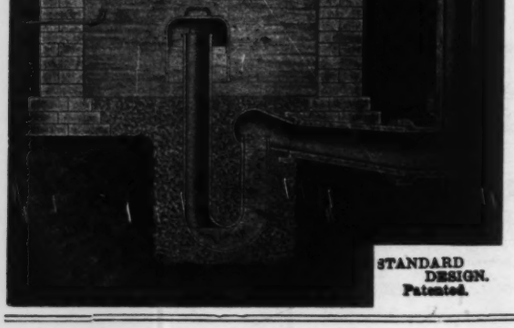

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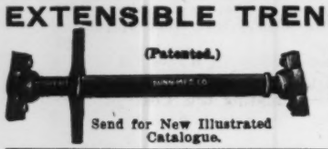

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Continued from Page 16.

ADVERTISERS' CLASSIFIED DIRECTORY.

Continued on Page 30.

NOTICE.—This new Advertisers' Classified Directory contains about 410 headings, against 181 in the old directory. More than double the space is required for the new directory and we cannot increase this more at present. We ask each advertiser however to see if his name is placed under the correct headings and to notify us of any mistakes.

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General Electric Co., Schenectady, N Y
Westinghouse Electric & Mfg. Co., Pittsburg

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Sprague Electric Co., Dept. N, New York

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Ellicott Machine Co., Baltimore, Md
Forsaith, R. C., Machine Co., Manchester, N H
Fraser & Chalmers, 153 Fulton st, Chicago
Lawrence Machine Co., Lawrence, Mass
McIntosh, Seymour & Co., Auburn, N. Y.
Morris Machine Works, Baldwinsville, N Y
Poole, Robert, & Son Co., Baltimore, Md
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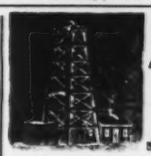

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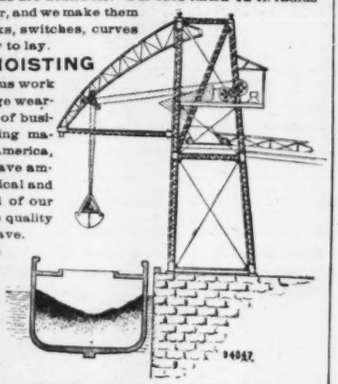

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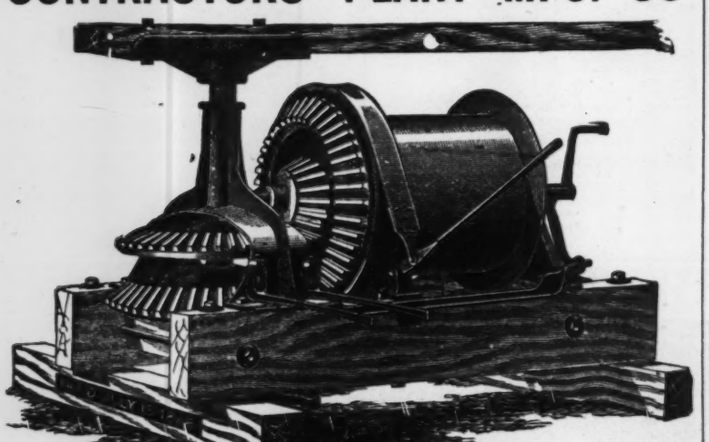

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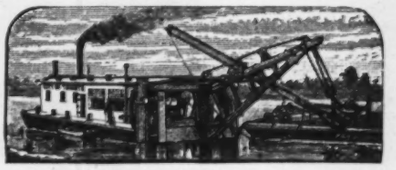

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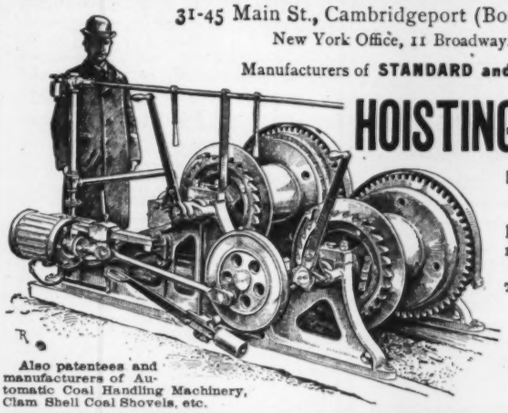

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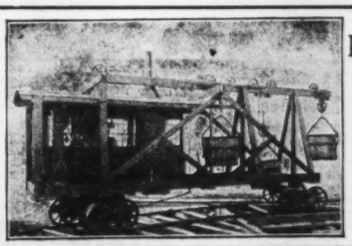

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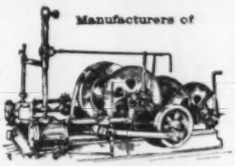

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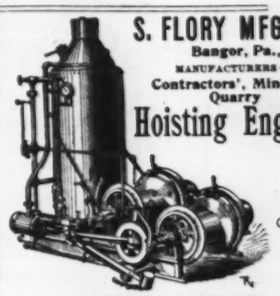

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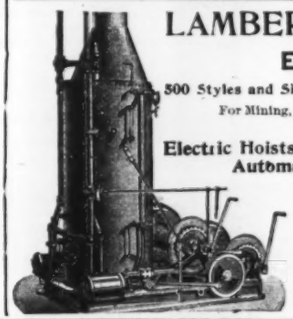

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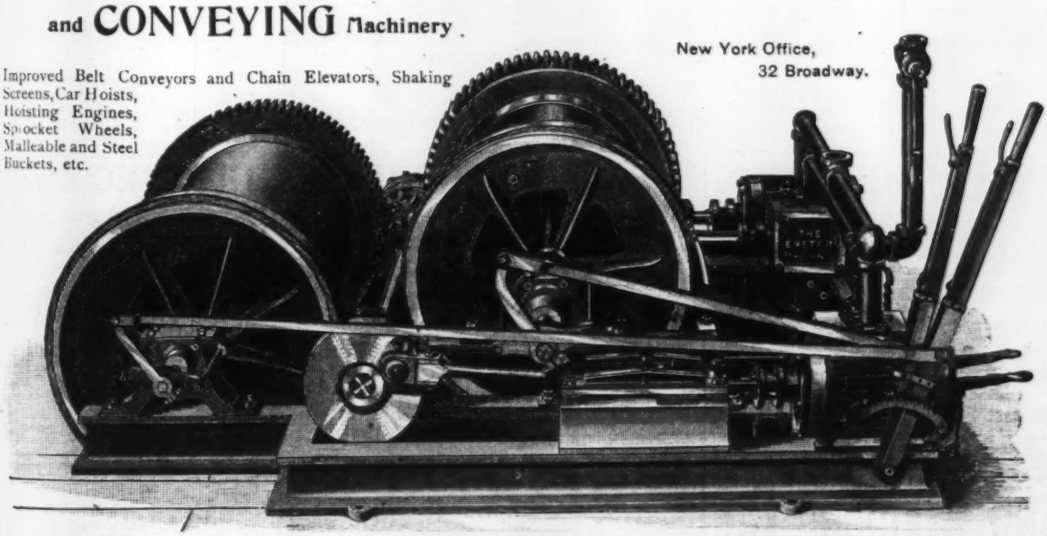

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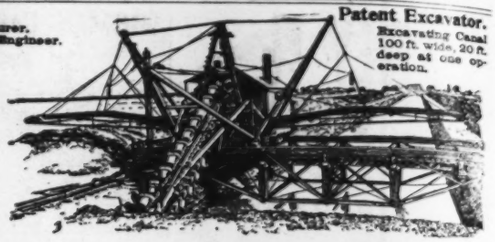
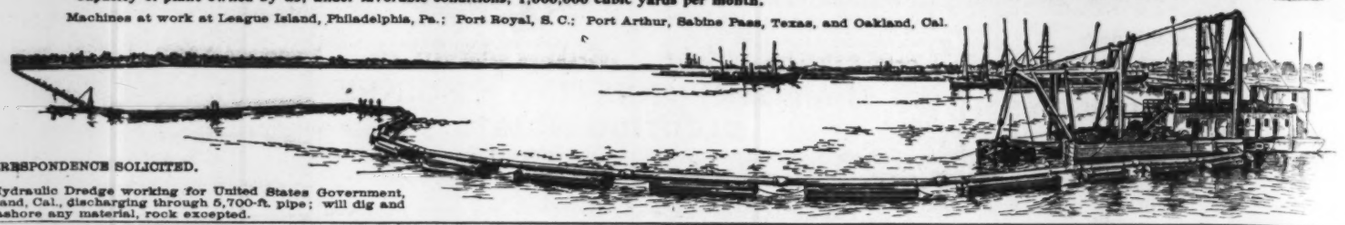
SPECIALTIES: Machinery for Economical Excavation of Canals; for Suction Dredging; for Filling and Reclamation of Low Lands.

Capacity of plant owned by us, under favorable conditions, 1,000,000 cubic yards per month.

Machines at work at League Island, Philadelphia, Pa.; Port Royal, S. C.; Port Arthur, Sabine Pass, Texas, and Oakland, Cal.



Patent Excavator. Excavating Canal 100 ft. wide, 20 ft. deep at one operation.



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Hydraulic Dredge working for United States Government, Oakland, Cal., discharging through 5,700-ft. pipe; will dig and put ashore any material, rock excepted.

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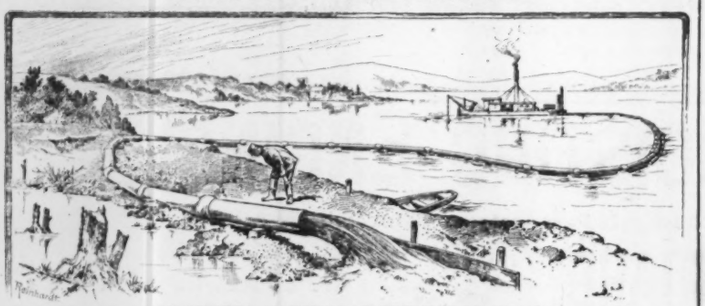

Against { NEW YORK DREDGING CO., and SAN FRANCISCO BRIDGE CO.

Injunctions have been granted me against both of these companies by Judge Hanford of Washington; against the New York Dredging Co. by Judge Larcomb of New York, and against the San Francisco Bridge Co. by Judge Morrow of San Francisco.

They were forbidden to take more contracts for their dredges, but were allowed to finish present contracts on filing bonds to indemnify me, which was done.

CAUTION. Parties employing those who use infringing machines are equally liable, and suits against some such are already pending.

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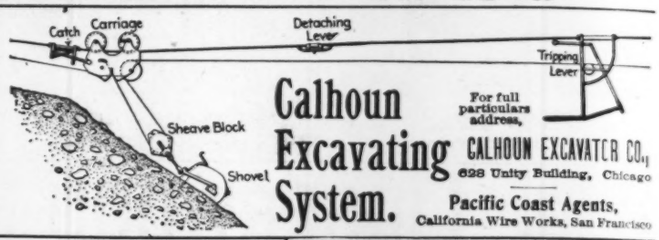
Bowers Pacific Dredging Co., San Francisco, Cal. A. B. Bowers: Pres., Mills Building.



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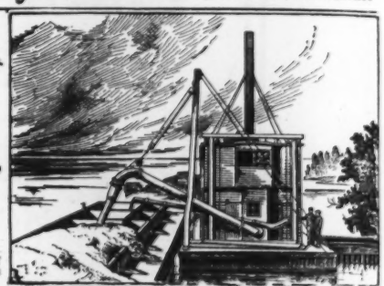

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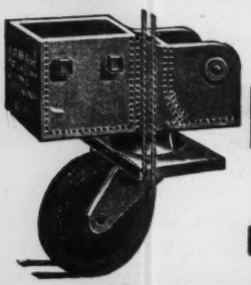

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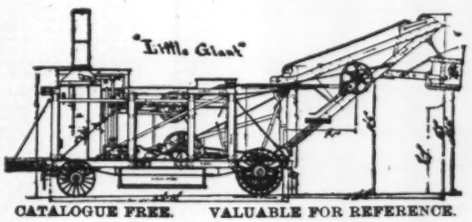

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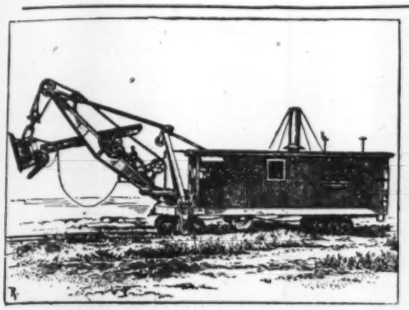

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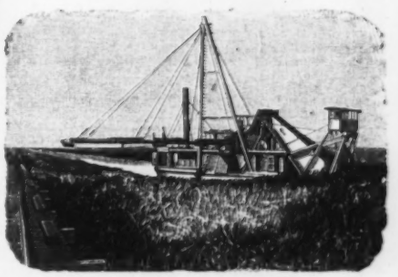

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With our improved Dredges we use the clam-shell or orange-peel bucket, but dispense with the troublesome and objectionable boom, which is particularly slow of management in machines carrying large buckets. Our buckets travel on guides in straight and vertical lines; are capable of rapid operation, and we can mount from two to six of them on one hull, as our customers may desire, thus practically combining a number of dredges in one with one unit of power and but one crew to man it. Capacity and economy are thus very much increased. We also employ methods by which full buckets are more readily obtained in the firmer soils.

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Its construction is simplified by patented devices which avoid all complications. It has the best record of any Excavator in the country. Its high crane allows it to dig 7 ft. below grade and can be lowered down in 30 minutes to pass low bridges when running over the road. It has loaded onto flat cars, 3,120 yards in 10 hours, and can excavate any kind of material that can be dug by any other Excavator ever built, and more of it.

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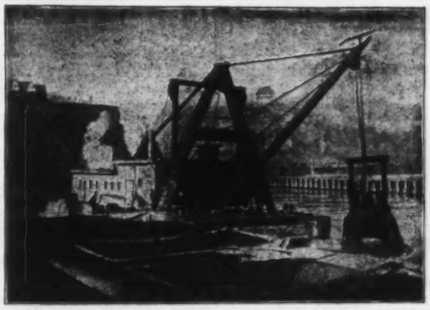

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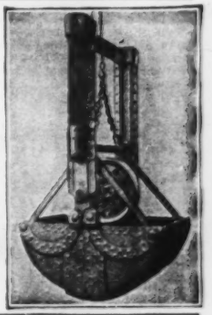

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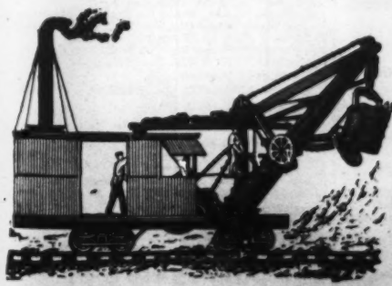

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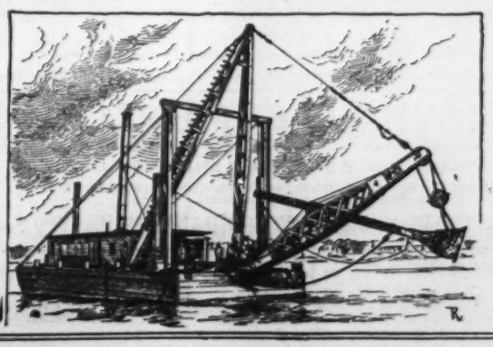
I hereby certify that I have used the Otis patent Improved Steam Excavators the past twenty years, in all kinds of earth excavation, and believe it to be the best dry-land Excavator in use, and the only one that will work successfully in hard-pan material. I have excavated and put into cars five million yards under one contract for making land in Boston; with two of these machines I loaded from seventy to eighty thousand yards per month.

N. C. MUNSON.

It is true that many of the most DESIRABLE ITEMS published each week in our Construction News supplement are furnished by the readers of Engineering News, and refer to work in which they are interested. We desire more of these special items, thus making our columns of Construction News and Industrial Notes of still greater interest and value. We ask you to send us such desirable items as you can.

OSGOOD DREDGE COMPANY,



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MANUFACTURERS OF High-Grade Vitrified Paving Bricks For Streets, Roadways, Sewers, Sidewalks and Gutters.

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Sole Owners of the Largest Asphalt Lake in the World,
offer for sale the most superior quality of Asphalt for pavements, roofing, etc. It will do 50 per cent. more work than any other.
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SAYLOR'S PORTLAND **Commercial Wood & Cement Co.** 305 Girard Bldg., Philadelphia. Rosendale and Portland Cements. Prices, Pamphlets, etc., on application. **COMMERCIAL PORTLAND**

Continued from Page 24.

ADVERTISERS' CLASSIFIED DIRECTORY.

Continued on Page 32.

NOTICE.—This new Advertisers' Classified Directory contains about 410 headings against 181 in the old directory. More than double the space is required for the new directory and we cannot increase this more at present. We ask each advertiser however to see if his name is placed under the correct headings and to notify us of any mistakes.

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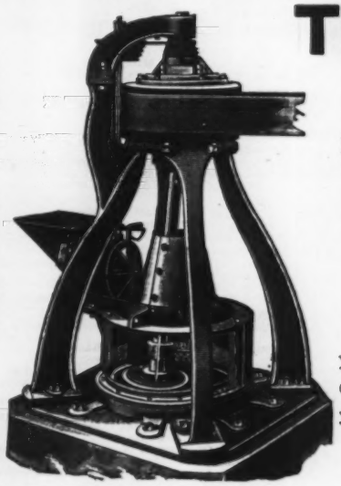

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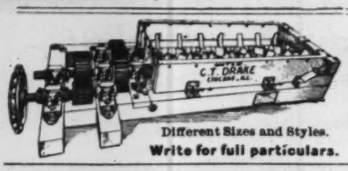

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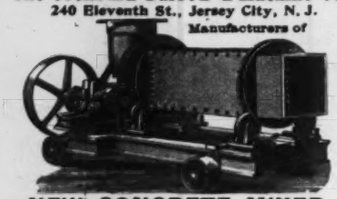
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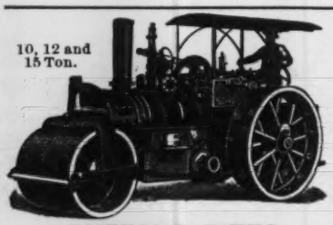
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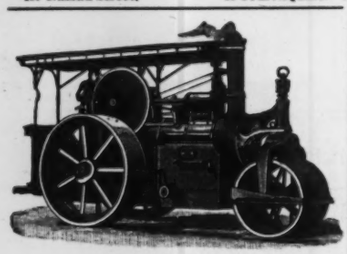
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Snider-Hughes Co., Cleveland, O
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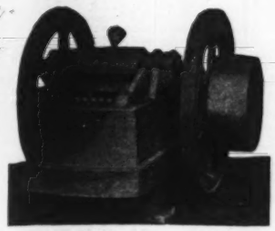

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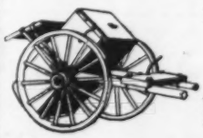

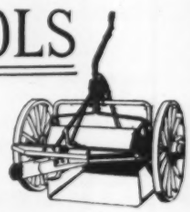

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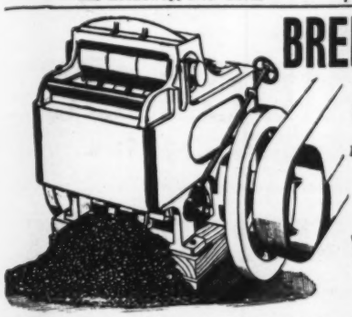

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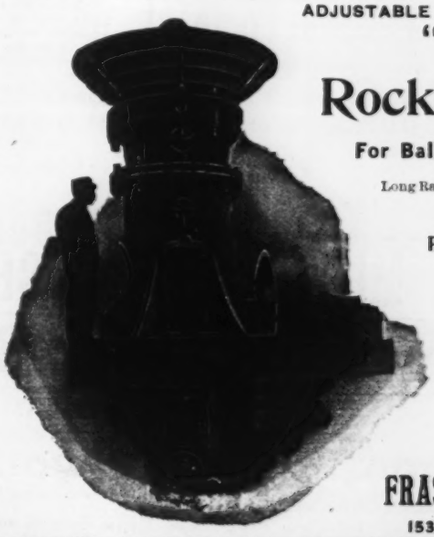

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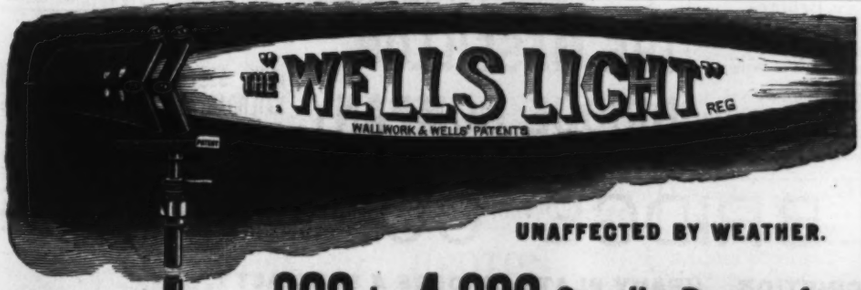

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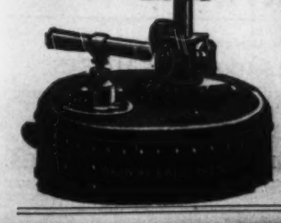

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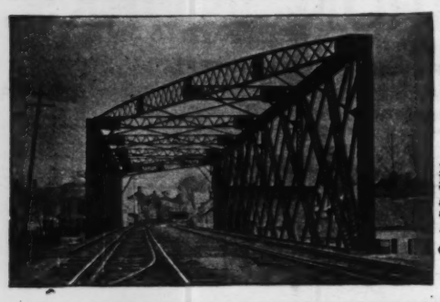

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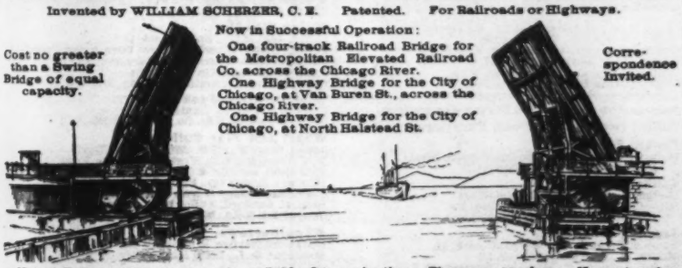

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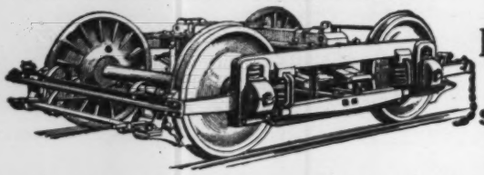

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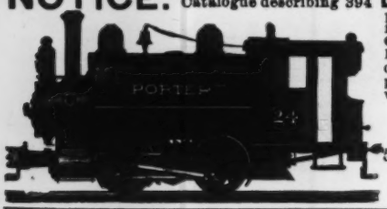

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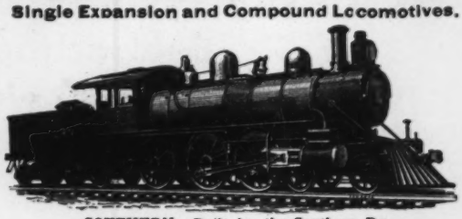

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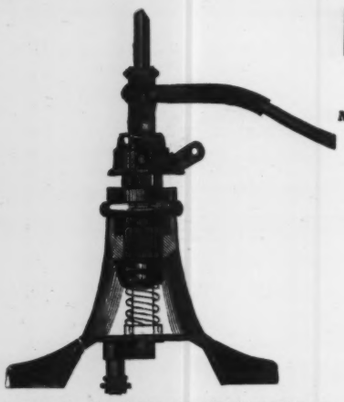

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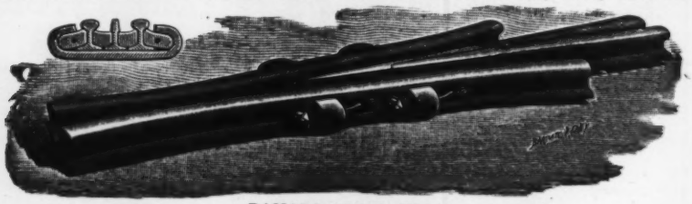

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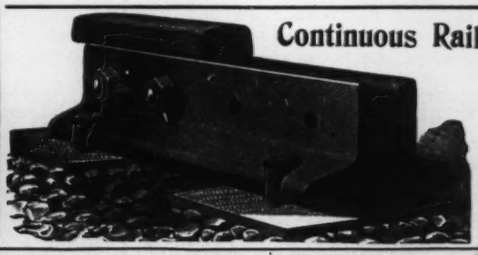

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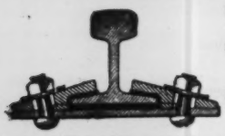

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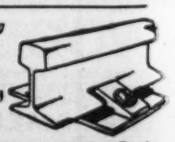

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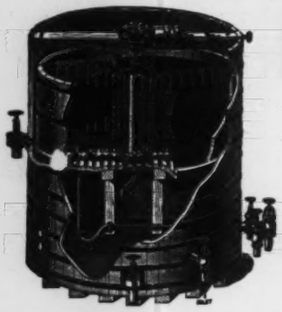

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